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CONTENTS.

Editorials 387

ORIGINAL ARTICLES:

Infection-Psychoses and the Symptom-Picture of Mental Confusion. By A. W. Hoisholt, M. D..... 392

Selected Points in Gastro-Intinal Diagnosis. By Caro W. Lippman, M. D..... 399

Septic Teeth. By J. S. Marshall, M. D..... 405
(To be concluded in November, 1916.)

Rocky Mountain Spotted Fever. A Preliminary Report. By Frank L. Kelly, M. D..... 407

Consideration of Rectal and Colonic Disease in Life Insurance Examination. By A. C. Zobel, M. D..... 410

Resumé of Epidemiological Investigations of Epidemics of Poliomyelitis with Reference to Contagiousness. By J. C. Geiger, M. D..... 413

(Contents continued on page IX.)

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California State Journal of Medicine.

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV OCTOBER, 1916 No. 10

EDITORIAL NOTES

INDEMNITY FUND.

Do not allow the opportunity of participating in the Malpractise Indemnity Fund to escape you. The whole plan in detail was printed in the July JOURNAL. Briefly put, it is that if three hundred or more members participate, a trust fund will be created, out of which fund settlements out of court, or the payments of judgments against such contributing members will be met. This gives you, in addition to the defense protection of the State Society which every member naturally has, complete financial protection, and the Lord knows you need it! If three hundred members will each send in their check for $15.00, and promissory note payable one year after date for a like amount, the fund will come into existence and the plan be put in operation. Since the first of the year hardly a week has passed in which a member has not been sued, and not a single day has passed in which some manner of complaint, suit, threat, or correspondence relating to these matters, has not gone through the office of the Society. We figure that if enough members will come into the fund, assessments will be required not oftener than every four or five years, and thus our members can practically carry their own insurance at a minimum cost and at a cost very much less than that of insurance in any indemnity company.

ANNUAL MEETING AT CORONADO.

The next annual meeting of the State Society will be held at Coronado, and as there will be ample accommodations under one hotel roof for at least five hundred, we may have no anxiety as to lack of accommodations. We are advised by the secretary of the committee in charge, that a large assembly hall will be provided for the general meetings, and rooms enough for sections meeting at the same time within the hotel itself. The local committee of arrangements desires to have the meetings held as early in the day as possible so as to secure a good attendance, and allow time in the latter part of the day for the delegates and visitors to take some recreation and see the many beautiful things to be seen in the vicinity of Coronado and San Diego. The meeting will be a very important one and our members should begin now to plan to attend it without fail. Undoubtedly the many questions connected with the changing conditions in medicine due to legislation, will come in for considerable discussion.

IMPORTANT NOTICE.

The Committee on Scientific Work wishes to call the attention of the members of the Society to the necessity of sending in early the titles to papers which they wish to present at the Annual Meeting to be held in April. Each year makes it increasingly difficult to include in the program the number of papers which are presented. It is therefore of importance that those intending to present papers notify the office at the earliest possible moment.

In order to avoid criticism and in order that there may be no feeling that injustice has been done any one, we wish to call attention to certain rulings that have been made by previous committees and which will be strictly adhered to in future.

First: No author will be allowed more than twenty minutes for reading. Papers requiring more than twenty minutes may be condensed at the time of delivery and, if of sufficient importance, will be printed in full in the JOURNAL.

Second: No paper will be "Read by Title." Those on the program who fail to appear to read the papers promised will, unless a satisfactory reason can be shown for such delinquency, be penalized by being refused a place in the program for three successive years.

In addition the following rule has been voted upon and unanimously adopted: Each author whose paper is to appear on the program must place in the hands of the secretary, before January 1, 1917, a short synopsis of his paper which will indicate the principal points to be discussed by him. This synopsis will appear on the program beneath the title of the paper. This is not an arbitrary or untried innovation but a custom sanctioned and adopted by the American Medical Association. It has been tried and found to be of great benefit. Authors who comply with this ruling will be given preference over those who do not supply such synopsis. Address either Dr. A. B. Grosse, 162 Post St., San Francisco, Chairman, or Dr. R. A. Peers, Colfax, Secretary.

SOCIAL INSURANCE.

Physicians, after all, are merely human beings, and as a rule they act and behave very much as other human beings do. When we see that large numbers of business men have never heard that there is a State Commission for the Study of Social Insurance and have no idea what it means, what it purports, or what the object of it is, we need not be surprised that large numbers of physicians also do not understand what is going on. Indeed, many of those who are actively participating in the new sociologic experiments do not themselves realize the extent of the movement or the far-reaching changes that are having their origins now. Many of the states in this country are, by statute and constitutional amendment, creating revolutionary sociologic conditions; bringing into existence in the space of a few months or years absolutely radical conditions and such as in other countries it has taken generations to develop. No wonder there are differences of opinion; no wonder there are innumerable petty complications and contradictions of more or less importance. To begin with, the whole question is susceptible of division into two absolutely distinct lines of thought and opinion: Shall the human race develop in its own unrestrained, untrammeled way, except for necessary police regulations? Or, on the other hand, shall its course of development be artificially changed, altered and modified by sumptuary legislation which really has its basic origin in the fundamental idea of paternalism? Who can possibly answer the question: Is social insurance in all its forms of benefit or not? Perhaps at the end of one or two centuries some one may be able to answer correctly the question, but no one at the present time can do more than express an opinion or conjecture.

INDUSTRIAL ACCIDENT INSURANCE.

In the matter of industrial accident insurance, which has been with us for something over two years, we find many things of great interest. One class of physicians are violently opposed to the whole thing. Another class are all indifferent. Another class realize that a large amount of work done by the medical profession which heretofore was never paid for, is now being paid for in a degree and to an extent which seems, or at least is intended to be, commensurate with the earning capacity of the individuals treated. We hear frequently that the medical profession as a unit should resent the impertinence of outside persons or bodies fixing the rate or amount of medical fees; that all such legislation is a great injury to the medical profession and that we should stop it or control it. Those who speak in this way fail to consider the fact that there are approximately five thousand physicians in California as against about two million citizens. Whose rights or whose welfare shall be considered the most important? It seems to stand five thousand to two million, which is a bit disproportionate. The legislature, listening to the voice of the whole people of the state who, in order to permit the legislature to carry out their wishes changed the very constitution of the state itself, look upon the question of industrial accident insurance in an entirely different way from the medical profession. Few medical men are students of sociology in general. Under former conditions the injured workman had his right to an action at law against his employer, but the records show that he seldom got much if any ultimate compensation, and then only after long and expensive litigation. It was the object of the people and the legislature to remove all such cases from the class of possible litigation and to make sure that the injured workman would receive care and attention and at least some compensation.

CHANGES IN MEDICINE.

"Medicine," using the word in its broadest sense, as a profession, calling or occupation, is changing very rapidly; more rapidly than most of us believe or understand, and so rapidly that many physicians resent the results of the changes without realizing their cause or their import. The tendency is toward State Medicine. Within the profession itself we see the same tendency. The development of refined methods of diagnosis, requiring skilled men in different lines of specialized activity, has brought about without its being realized what has been called the "group plan" of practising. Such groups of physicians are in many cases united on a thorough business basis, and are conducting the professional work of the group just as, since time immemorial, groups of business men have been conducting their commercial activities. The support by Congress of the Public Health Service, its increased activities, and the enlarged range of its functions and duties, is a distinct evidence of the subconscious appreciation of State Medicine by the people of the whole country. The fact that one of the oldest states in the Union, Massachusetts, and one of the younger children, California, have both, through their legislatures and by appropriations, undertaken the careful study of social conditions with a view to possible health insurance, is a remarkable illustration of the fact that the idea of State Medicine has taken firm grasp of the minds of the people whose training, environment, and method of thought are so different as those of the old colony of Massachusetts and of the western state of California. Wherein does the slightest good prevail for a handful of men following a special calling, living rather narrow lives, to rail at such changes and say that the growing desire of the whole people is wrong? Economically, the sick wage-earner is a burden on the whole community. Economically, it is to the financial and social interest of the state to see that its wage-earners are, in so far as possible, kept from being sick, or given the best possible care and attention when they become sick. This broad economic truth studied in connection with the group method of practise (which originated in the medical profession itself) is a pretty clear pointer in the direction which future sociologic legislation will taken.

HEALTH INSURANCE.

A good many members, judging from the letters which we have received, do not seem to realize that the medical profession and particularly the Medical Society of the State of California, have been in close touch with the State Social Insurance Commission practically from its very beginning. A very active committee of the State Society, of which Dr. René Bine of San Francisco is chairman, has been in constant touch with the Commission and with a number of other bodies which are all working earnestly and conscientiously together for the same purpose; first, to find out existing facts, and second, to suggest a proper method of bettering them. We need none of us have any anxiety over the possibility of hasty or ill considered legislation. In the first place, a constitutional amendment will probably be required before any legislation creating health insurance can be adopted. In the second place, from the very manner in which the Commission is studying the situation, it is apparent that the utmost consideration is to be given to the medical profession in considering the fact that its services are fundamentally essential to carrying out any plan of health insurance. Do not let us waste time or energy in thoughtlessly clamoring to oppose all such legislation. Such an attitude is worse than useless. It not only is useless, but it creates an antagonism instead of stimulating cooperation. Every county society in the state should give these matters the most careful thought and attention, and should in every way possible urge upon our members the necessity for cooperating with the committee of the State Society and with the State Commission in the study of this problem.

IDENTIFYING RECORDS.

This time we do not refer to the records which a physician keeps, or should keep, but to the records which are being accumulated in the office of the State Society. We wish to have all the information about physicians located in California that it is possible to collect. We desire very much both a photograph of every physician and a specimen of his handwriting. It would astonish you to know how often this office is called upon to identify some particular physician, or to give some information in regard to him. Hardly a day goes by that this is not the case. In San Francisco a photograph studio offered to take a photograph of any physician free of charge and to furnish us with a copy free of charge. We therefore wrote a letter which this studio sent out, setting forth these facts. Of course, if the physician who has his picture taken likes it and orders some, the studio makes its profit, and this is the reason for their willingness to do the work. There is no compulsion, however, and no one need order any pictures if he does not wish to. However, any photograph will do and if you have one of yourself that you can spare we will highly appreciate your courtesy in sending it to us, with your autograph on the back. Last year we spent nearly six weeks trying to identify the handwriting of a certain physician in a matter of considerable legal importance and advantage to him. Please help us all you can.

HOSPITAL CHARTS.

If some one will kindly explain to the editor why it is that hospital charts, and charts used for bedside notations by physicians in private practise, are printed in blue and purple ink, his courtesy will be greatly appreciated. Over and over again papers are sent in for publication with such charts attached, and over and over again the charts are returned to the author with the statement that it is impossible to reproduce them. Blue and purple ink will not photograph, and the entire chart must either be re-drawn in India ink, or not used at all. Would it not be possible for hospitals, and those physicians who use these ruled bedside charts, to have them printed in black, in which event they could be easily reproduced?

STANDARD LABORATORY TESTS.

The increasing doubt with which laboratory tests are met by the general practitioner has become a source of dissatisfaction to laboratory workers, so much so that clinical pathologists realize that this incredulity must be met and overcome if the clinical pathological laboratory is to retain its place in the "sun" of medical practise.

A scientific test is one in which the personal equation has been obviated to a minimum. The same ingredients prepared in the same manner, and added in the same way, should give a standard result. The discrepant results obtained by different laboratories seeking for a similar contingency prove that "scientific" medicine is not yet scientific.

There has been a general trend towards overcoming this difficulty by associations of workers in this special field, who by means of congresses and symposiums have attempted to reach some common ground of understanding.

While this lack of uniformity in laboratory tests extends to practically all of the clinical methods employed in the diagnosis of diseases, there is no one test that has fallen into as much disrepute because of this, as the Wassermann test for the sero-diagnosis of syphilis. The Wassermann test has proven its value despite the numerous modifications and despite the many discrepant results, so that to-day a discrepant result is no longer attributed to the test, but to the lack of knowledge or poor technic on the part of the laboratory worker. It behooves, therefore, the laboratory worker to make sure that he is not lacking in any one of these requirements. There is no doubt, however, should an inquiry be conducted on this subject, that each laboratory worker would insist that his method is the method of choice, and yields reliable results. It is manifestly impossible, and it is not advisable that any one man's opinion be accepted as to the validity of the method he employs.

The California State Medical Society would do well to set an example in this regard by appointing a committee of serologists who could as a result of an investigation of the methods in current use in reliable laboratories, arrive at a conclusion as to the method yielding the most satisfactory results. They should then recommend this standard method and certify all laboratories in which this method is employed. Only in this way could

reports from different laboratories be of value. This would do away with the frequent repetition of blood tests to add to the greater confusion of the attending physician, with the consequent expense to the patient who in many instances is ill able to afford this.

This could ultimately be extended to other tests, but at the present time the crying need for exact knowledge on this subject could be met to the gratification of both patient and physician alike.

THE PAYING OF THE OLD MORTGAGE ON ST. LUKE'S HOSPITAL.

Some five years ago St. Luke's Hospital was changed from an institution occupying some old and shabby wooden buildings to one housed in a modern hospital building, with a modern hospital equipment. This was a great step forward, and was made possible by gifts by Mrs. Louis F. Monteagle, Mrs. Whitelaw Reid and Mr. Ogden Mills. The donations, however, carried no endowment, and the type of the hospital did not change, its revenue continuing to come chiefly from the board-money of the patients. Moreover, the hospital was carrying a mortgage, incurred in 1902 to permit the erection of a surgical pavilion, which was quite wrecked by the earthquake, and the asking for endowment while the indebtedness existed was found to be impossible. The original sum borrowed had been $50,000.00, and this had been reduced by 1910 to $32,000.00 by payments from hospital earnings, but there it stuck, and the interest charges were a heavy burden on the hospital resources, and stood in the way of much development that was sorely needed. The total amount of interest paid had, in fact, amounted to more than the final amount of the mortgage; that is, more than $32,000.00. The result, therefore, was that the hospital was working for a bank instead of for the church.

Realizing that a hospital run for revenue was not the type of a church hospital, nor the kind the donors of this were really interested in, they started a subscription—themselves again giving large sums —and have paid off the entire amount. The subscribers were: Mrs. Louis F. Monteagle, Mrs. Whitelaw Reid, Mr. Ogden Mills, Mr. William H. Crocker, Mr. George Pope, Mr. W. B. Bourn, Mrs. William H. Crocker, and Mr. Louis F. Monteagle.

St. Luke's Hospital now stands clear of any debt, every cent earned by it or given to it going for support or betterment, and endowment can be asked, so that in time half the beds in the hospital shall be free, and that charity, which is the Church's only excuse for having a hospital, shall be easily possible.

This will put the hospital in the same class with other hospitals of the same name in other cities of the United States, and make it one which shall be productive medically, and so contributory to medicine, as well as the almoner of the Protestant Episcopal Church in America.

STATUTE OF LIMITATIONS.

Referring to an editorial in the September issue, headed "Careless Doctors," a correspondent writes for an explanation of the apparent conflict in the matter of the running of the statute of limitations. Under the Industrial Accident Law the physician's claims must be presented within six months or be outlawed. Under the code, an open or book account does not outlaw for four years. Our correspondent wishes an explanation of this apparently anomalous condition. The explanation is simple. The constitutional amendment and the act of the legislature creating the Industrial Accident Commission and outlining its jurisdiction and its activities, took the whole subject out of the range of the general law, or the code of California, and placed it in the hands of the Commission. All those code provisions and general laws which otherwise apply to such things, do not apply when they come within the territory of the Workmen's Compensation Act. Moreover, by the constitutional amendment and by this act, the courts of the state are prohibited from having any voice in any matters arising under this law, except on the one point of a review of the acts of the Commission to determine whether they have acted within or without the authority and the limitations of the act itself. This is one reason why, owing to the absolutely new condition of things, many differences in rulings and many complications have arisen, are arising, and necessarily will continue to arise for some time to come.

BRIEF FOR HEALTH INSURANCE.

A death rate for American wage-earners twice that of professional men; the prevalency of high sickness rates; the need among workers of better medical care and of a systematic method of meeting the wage loss incident to sickness; and the necessity for more active work in the prevention of disease, are the corner-stones of the case for compulsory health insurance presented in the brief just published in New York by the American Association for Labor Legislation. This situation, it is pointed out, cannot be met fully by existing agencies, and can only be properly remedied by a system of health insurance embracing all wage-earners and dividing the cost among employee, employer and the state.

The great amount of sickness in the homes of the poor causes an average loss by each wage-earner of nine days a year, and involves annually a national wage loss of approximately $500,000,000. Notwithstanding the greater prevalency of tuberculosis among wage-earners, their early susceptibility to the degenerative diseases of middle life, and the excessive death rate among the industrial population, workers often are unable to secure the medical attention they require. In Rochester, New York, it was found that 39 per cent. of the sickness cases were not under a doctor's supervision; in a city like Boston, Massachusetts, one-fourth of the population, it is estimated, are unable to pay the fees of a private physician.

The lowered vitality and the poverty created by

present day conditions it is claimed can only be checked by a system of health insurance, which for a small sum divided among employer, worker and state, will bring medical care to the wage-earner and his family, will assure for a maximum of 26 weeks in a year a weekly payment of 2/3 of wages during the breadwinner's illness and in addition a small benefit should he die. "Compulsory health insurance," concludes the brief, "is an economical means of providing adequately for the sick wage-earner, and will prove a mighty force for the inauguration of a comprehensive campaign for health conservation."

POLIOMYELITIS.*

Thanks to the efforts of Flexner and his coworkers Lewis, Draper, Dochez, together with many others, we have attained a real knowledge of the etiology and natural history of poliomyelitis. In the realm of therapeutics, however, progress up to now has been insignificant. The fact that a very positive immunity is confererd by one attack is foundation for the belief that the development of a curative serum ought to be within the bounds of the possible. Numerous attempts to produce such serum have been made without success; it has been impossible to infect any experimental animals other than monkeys and for the production of immune sera Rhesus Maccacus is impossible.

In recent years the idea of immunizing against some of the unknown viruses such as epidemic parotitis and measles by injecting into contacts the blood serum of patients recovered from the disease, has taken hold and there are in the literature several reports which indicate that a measure of success has followed a trial of this method. Flexner and Lewis demonstrated that the immune sera both from monkeys and humans were therapeutically powerful when injected sub-durally and would protect animals inoculated with a potent virus, while normal serum had no protective powers.

Developing these ideas, Armand Netter has utilized the recovered poliomyelitis patient as a source of curative serum to be used in the treatment of infantile paralysis. He withdraws the blood from a vein, separates the serum and injects from 20 to 40 c.c. into the spinal canal after lumbar puncture and the withdrawal of a like amount of spinal fluid. Netter's reports encourage the hope that at last we have a remedy for this disease that is truly of value. His method is simple, harmless and efficacious and it should receive extended trial by the profession. In the French physicians' trials, success followed the use of serum taken from patients who had had infantile paralysis even so long ago as thirty years.

In order that the method may have a trial in San Francisco the County Medical Society has decided to circularize its members asking them to aid in the preparation of a list of immunes who would be willing on request to supply blood for the treatment of acute cases. Such donors need be known only to their personal physicians and so could be spared unpleasant notoriety. As a matter of course donors would be submitted to the Wassermann and other essential tests. The plan contemplates that each member of the Society shall endeavor to obtain from an individual who has recovered from poliomyelitis the promise that he will act as a blood donor on request of his physician. When he has obtained the promise the physician will communicate the fact to the secretary. The secretary shall keep a list of members who are in touch with prospective donors and shall supply such a list to any other member on request. It will thus be relatively an easy matter to obtain serum promptly for the treatment of an acute case, and prompt treatment is half the battle.

Sophian has reported the use of normal horse serum as an intra-dural injection in the acute stage of poliomyelitis. He is encouraged by his results, which he thinks as good as those which followed a limited trial of Netter's plan of using immune human serum in the same way.

More recently Meltzer has suggested the use of intra-dural injections of adrenalin chloride. He advises that 2 c.c. of the 1 to 1000 solution be injected every four to six hours until the fifth or sixth day after all paralyses have disappeared. In his contribution "The Treatment of Acute Poliomyelitis," which appeared in the *New York Medical Journal*, August 19th, 1916, Meltzer states that this plan of treatment has been tried at the New York Throat, Nose and Lung Hospital with results that at least prove that adrenalin used in this way is harmless. The rationale of this suggested treatment rests upon the distinction Meltzer draws between inflammatory foci and inflammatory areas peripheral to the foci. These areas consist for the most part of zones of edema and hyperemia of a transitory nature. It is his idea that the pathological process involving the vital centers in the nervous system is not always a destructive one but one based upon an edema and hyperemia that it may be possible to disperse by the use of adrenalin in intradural injection.

Meltzer also urges the use of his intra-pharyngeal insufflation apparatus when there is threat of asphyxiation during the acute stage of poliomyelitis. Observations on monkeys infected with the disease, made during the stage of asphyxia, convince him that "in cases with paralysis, death is due to a respiratory paralysis from an involvement of the origins of the chief respiratory nerves (phrenic and brachial plexus) while in encephalitic poliomyelitis the vasomotor center may be the first vital point which becomes paralyzed," should the centers escape destruction, but be involved by hyperemia and edema. It is possible that an efficient method of artificial respiration might keep the patient alive until the adrenalin dispersed the edema and hyperemia and aided the centers to attain normal function, and for this Meltzer's advice seems sound and worthy of attention.

* 1. Flexner & Lewis: Jour. A. M. A., Aug. 20, 1910.
2. A. Netter: Arch. de med. d. enfants, Jan. 16, 1916.
3. Sophian: Jour. A. M. A., Aug. 5, 1916.
4. Meltzer: New York Med. Jour., Aug. 19, 1916.

ORIGINAL ARTICLES

INFECTION-PSYCHOSES AND THE SYMPTOM-PICTURE OF MENTAL CONFUSION.*

By A. W. HOISHOLT, M. D., Medical Superintendent, and W. T. HARRISON, M. D., Pathologist, Napa State Hospital.

Mental confusion as a disease-picture or syndrome is met with almost as frequently as the symptom-complex of mental depression or melancholia. As a disease-picture it is very striking and easily recognized, which is the reason why the layman always agrees that the person who is confused and talks disconnectedly must be crazy, while he rebels against considering the man really insane who is only despondent or elated. Mental confusion has been for ages the ideal landmark of insanity to dramatists and poets, and it has been portrayed on the stage with more or less success. One of the best portrayals of this kind that I have seen was the masterful acting of Mansfield in the closing scene of Beau Brummel.

The chief element in mental confusion is the incoordination in the sphere of ideas which resembles the incoordination observed in motor disturbances. Here the motor impulse results in a limited excursion of the paretic muscles, while the intact muscles show an over amount of energy by reason of irradiated force. This leads to the development of irregular uncontrollable muscular action, with inadequate joint motion, as we see it in real ataxia.

In the same way may the incoherency in ideas be dependent upon paretic or weakened idea associations, as in confusion that is connected with demented states which in extreme cases may make the incoherency in conversation sound like a jargon, termed "word-salad" by the humorous French psychiatrist, Forel. The incoordination as we see it in confusion may, like the incoordination in ataxia, from an overbalancing of intact muscles, originate from a morbid increase in the rate with which idea associations are formed, so that each idea starts its associations before the one preceding it has had time to react.

Another important element in confusion is enfeeblement of apperception. The patient grasps the situation only to a slight extent. One may for a moment catch his attention, getting usually a more or less wrong answer to the question put to him, but he soon again pursues his incoherent train of thought. The apperception may not only be weakened, but it is usually also perverted—objects and persons have a changed appearance which is sometimes horrible or antagonistic, sometimes may seem comical. The objects are seen in a particular light or color—sometimes in all the colors of the rainbow—everything seems so peculiar to him that he is perplexed. "He doesn't know what it all means." "Everything seems changed; something is wrong, but he doesn't know what it is." He misjudges his surroundings and frequently says they are making fun of him.

This ushers in the development of the symptom which dominates the picture, namely, the hallucinations. To the functional weakness of the cortical activities become added an enormous increase in the work done by the sensory centers which leads to confusion and lack of orientation, so characteristic of mental hallucinatory disturbances of this kind. The activities of the sensory centers bring about imaginary impressions, rendering it difficult for the patient to bring order and coherency into the contents of consciousness. It is not always easy to ascertain the existence of hallucinations in severe forms of confusion; a loss of orientation and a befogged sensorium, associated with incoherent speech, are in themselves, however, an evidence of confusion. In cases where the sickness has begun suddenly and with great intensity, the delirium is especially wild in character; in other cases, however, the hallucinations may develop slowly and more gradually and may lead to building up of delusions, which do not bring about definite changes of the personality as we meet with in paranoia.

The hallucinations are numerous and kaleidoscopic in these forms of confusion. The patient sees faces and figures, angels and religious revelations, murderers; may see snakes and other animals in the bed, or he may experience an elementary hallucination of thinking himself surrounded by fire. He hears persecutors outside his door threatening to shoot him; he hears the reports of guns and the noise of fights in which people are being killed. The sound of music comes from above, mingled with voices—the voice of God giving him promise of eternal life, etc. Sensory hallucinations may be experienced in the form of feeling the movements of the ship which he has boarded or he feels himself propelled through the air. He is being charged with electric currents or feels knives cutting through his skin. Sometimes hypochondriacal ideas based upon organic hallucinations may be present; the beating of his heart has stopped; his bowels are choked or he may feel scorpions in his stomach, or snakes under the skin. The other senses may likewise be involved: poisonous gases pouring into his room, the atmosphere smells of chloroform, he may taste poison in his food, etc.

Fallacious ideas based upon the hallucinations are, like the latter, very fleeting, numerous, changeable, and fantastic. He may think that he is to die, to be cut to pieces or otherwise tortured, hearing the subject discussed outside the door. He may be in fear that his family will suffer the same fate. On the other hand, the delusions may be of a pleasant nature, hearing the voice of God and coming to the conclusion that he is the Son of God, or that she is about to marry the son of a millionaire, etc. At times the delusions take the form of imperative ideas, which may even be recognized by the patient as incorrect or morbid, but of which he cannot rid himself. The mood is entirely dependent upon the character or contents of the illusions or delusions, and, it changes with them from one extreme to the other. Whenever the patient is not especially influenced by his perverted sense-perceptions, the mood is usually apathetic. The emotional changes, like the delusions, are reactive, not primary.

* Read before the Sacramento Society for Medical Improvement, March 18, 1916.

The patient's manners and acts are dictated, as it were, by his hallucinations and delusions as well as by the resulting emotions; and the behavior, therefore, is apt to change every minute. Sometimes the patient is noisy, agitated, boisterous, extremely restless, especially when he seems overwhelmed by the hallucinations. At other times the patient is more stuporous or dazed, the enfeeblement of the thought activity having taken hold of the patient.

The picture of mental confusion is more frequently observed outside of idiopathic insanity than any other mental picture. In a rudimentary form it is met with in the various psychoses, such as dementia precox, manio-depressive insanity, and even in paresis, epilepsy and hysteria, and is in these surroundings easily recognized as a symptomatic admixture to the characteristic traits of the psychosis in question. What is spoken of in physical disease as a delirious condition is representative of this symptom group. Delirium, which means "off the track or furrow," is dependent upon a dream-like, befogged state of consciousness with more or less pronounced excitement into which enters the elements of incoherency, hallucinations and motor restlessness with a constant tendency to leave the bed, etc. Delirium is typically associated with acute infectious diseases, and the physician in general practice may at times find himself called upon to differentiate delirious states accompanying physical disorders from an idiopathic insanity. In delirium of this kind the patient raves, he is disoriented, it is difficult to get his attention, he is living a life of dreams in which former life experiences play a role. He takes a fantastic view of the surroundings, and may react upon hallucinations by lying quietly, muttering, picking at bed clothes (delirium mussitans), or mildly gesticulating. His motor reactions may, on the other hand, be violent in character; he may leave his bed because he cannot keep still, stimulated as he is by a craving for activity, which is usually present, or because of extreme apprehensiveness. He may even jump out of the window, climb up on the roof, or in various ways endanger his life. He may make a homicidal attack on his surroundings, under the influence of fear or persecutory ideas. The course, duration or prognosis of such delirium is dependent upon the character of the physical disease causing it, such as acute articular rheumatism, pneumonia, typhoid fever, puerperal fever, erysipelas, scarlet fever, measles, malaria, etc.

All the deliria complicating general diseases are undoubtedly due to infection set up by the primary physical ailment, no matter how transitory the delirium may have been. The delirium is probably not caused by the high temperature or fever, but, in common with the fever, may be a result of the infection. In one of the Napa State Hospital cases (Case I, herewith appended), we had a most striking illustration of an intense delirium when the rectal temperature was 102 degrees, while the patient showed absolute lucidity and rationality which continued for twelve hours to within a short period of death, when the temperature ranged between 106 and 107 degrees.

Aschaffenburg in his Handbuch der Psychiatrie (Leipsig, Special Part, First Volume, 1915) speaks of intoxication- or exhaustion-psychoses under his second group of exogenous psychoses, and under this name includes: infection-psychosis, psychoses in general diseases, acute nervous exhaustion and amentia. Amentia, as a disease entity, has lost much in prestige in recent years, but it is still adhered to as such by some writers. The more, however, one has his attention directed to exogenous factors and the more one meets with its association as a sequela to just such general diseases as belong in the class of infectious diseases, the more does one become convinced of its toxic origin. Even where it occurs as a sequela to physical exhaustion, as following hemorrhages, conditions leading to inanition, etc., it may be due to toxines which are known to develop under such circumstances.

At this hospital we have recently had an opportunity to study eight cases, the abstracts of which are herewith presented. We think these cases belong in a special group of infection-psychoses directly produced by microbic invasion. The cases have stirred quite an interest at the Napa State Hospital because of the virulent character of the disease—six of the cases terminating fatally, four within a period of eight weeks—and because of the results of blood-culture studies, which throw a certain light upon some of them. Very careful blood-cultures in five out of the six fatal cases were made at the laboratory. In three of them the diplo-streptococcus was found in blood secured during life as well as after death. In two of the cases, which suffered from chronic endocardial disease, one being a case of severe mitral stenosis, the diplococcus was also found in recent inflammatory material in fissures of the calcified mitral valve. The third case, in which the diplococcus was found in the blood prior to death, showed no heart lesions, but an enlarged spleen and other signs characteristic of septicemia. A blood-culture, with positive result, was also made in one of the two recovered cases, making in all four positive findings in the six cases where blood-cultures were taken. An acute nephritis was present in all the cases to a greater or less extent as evidenced by clinical symptoms supported by autopsy findings.

The temperature in the six fatal cases reached a considerable height, the maximums being respectively: 107.6°, 105.6°, 107.4°, 107°, 107°, and 107°, the duration of the disease proper in the six fatal cases varying from eight to fifteen days (12, 12, 9, 15, 12 and 8 days respectively). Five of the eight cases showed a temperature of 100.4 to 103.6 degrees on the day of admission or on the day following. In two of the patients the infection started a considerable time after the admission of the patient to the hospital. One of the two recovered cases, supposedly belonging to this group, came in with a temperature of 100.2 degrees and reached a maximum of 103.6°, which subsided gradually to the normal in about thirty-five days. Unfortunately, a blood-culture was not made in this case.

TABLE GIVING A RÉSUMÉ OF THE MAIN FEATURES OBSERVED IN THE EIGHT CASES REPORTED

	Age	Date of Admission	Onset of Delirious Outbreak	Exetus or Recovery	Duration of Delirium	Highest Temperature Reached	Results of Blood Cultures	Evidence of Kidney Affec.
1. P. C.	23	Jun. 17, '15 M. D.	Oct. 2, '15	Ex. Oct. 14, '15	12 days	107°	Negative	Acute par. Ne
2. H. K.	23	Nov. 20, '15 M. D.	March 3, '16	Ex. Mch. 15, 16	12 days	107°	Negative	Acute par. Ne
3. M. S.	24	Jan. 11, '16 M. D.	About Jan. 11, '16	About recovered on ‡ Feb. 15, '16	Recovery by lysis 35 ‡ days	103.6°	No cultures Made	Albumin and Casts
4. J. F.	41	Feb. 1, '16	Alcoholic Feb. 26, '16	Ex. Mch. 6, '16	9 days	105.6°	Diplostreptococcus	Ac. par. Neph.
5. F. E.	20	Feb. 2, '16?	Prob. one day prior to Feb. 2, '16	Ex. Feb. 16, '16	15 days	107°	Diplostreptococcus	Ac. par. Neph.
6. C. N.	51	Feb. 15, '16?	About Feb. 15, '16 Del. Tr.	Ex. Feb. 28, '16	12-13 days	107°	Diplostreptococcus	Ac. par. Neph.
7. J. V.	25	Apr. 5, '16	About Apr. 5, '16 Lues of Cent. Ner. Syst.	Ex. Apr. 13, '16	8 days	107°	Negative	No ocular evidence of nephitis
8. F. H.	48	May 22, '16	About May 22, '16	June 12, '16	21 days	102.4°	Diplostreptococcus	Albumin and Casts

While the pathologist can only report a finding per blood-culture of diplo-streptococcus in four of the six cases (two of these with endocardial lesion) in which blood-cultures were made, yet there is in all cases a parallel as to duration, terminal extremes of temperature and nephritic complication, which is suggestive as to a possible identical toxic origin. Just where this microorganism, which has been known for some few years, makes its original entrance into the body has in some cases not been ascertained; although in other cases its focus has been demonstrated in the teeth, in the nasal and other sinuses, in the tonsil, etc. In the case with mitral stenosis it would be impossible to say whether the microorganism originated in the fissures of the valve or were reimported from without. In case IV hypertrophied tonsils were found at autopsy, but there was no history of tonsilitis. In case V nothing was found at the autopsy to explain the source of the microorganism.

The Stanford internes, Drs. R. A. Jones and H. F. West, rendered valuable assistance in the laboratory study of these cases.

Note:—Since the above was written we have had a ninth case of this form, which originated in connection with a throat affection leading to an endocarditis and terminating fatally. In this patient, a woman, we likewise succeeded in isolating the diplo-streptococcus. Clinically the course resembled that of case IV.

Case I—A. B., No. 15216, 29; white male, age 23, student, single. Admitted June 17, 1915; died October 14, 1915. Diagnosis: Manio-depressive insanity, maniacal phase.

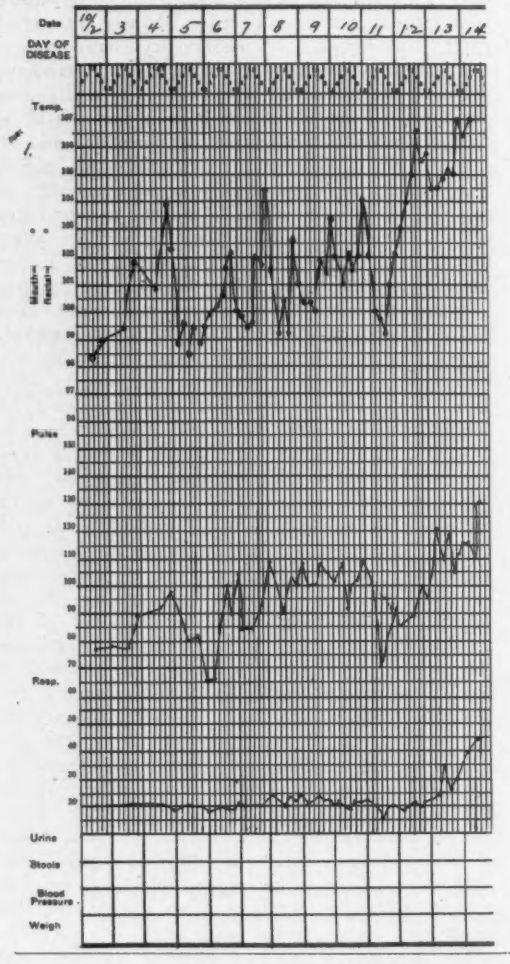
Family History: Negative.

Past History: Childhood diseases from which recovery took place slowly, one severe illness during childhood, date unknown, said to have been due to streptococcic infection, complicated by acute nephritis. No other illnesses. Good mental capacity; athletic.

Present Illness: Onset rapid, suspicious, violent at times, very much excited.

Examination: At entrance physical examination entirely negative.

Progress Notes: From date of admission to October 2, 1915, the patient passed through two phases of excitement of varying intensity, and on October 3, 1915, suddenly began to run a temperature, beginning at 99.4° and reaching 104° on the fourth. Physical examination daily repeated,



but showed no cause for fever. Temperature, accompanied by marked delirium, which continued throughout acute physical illness until forty-eight hours preceding death when complete lucidity

supervened. The acute delirium was accompanied by extreme restlessness and destructiveness.

Laboratory Findings: Blood, Wassermann, negative. Widal and cultures both negative upon two occasions. Leucocytes 17-20,000. Urine—repeated examinations showed heavy cloud of albumen, many Hyaline, finely and coarsely granular casts; moderate number of blood and pus cells.

Autopsy: Acute, passive congestion of the lungs; acute parenchymatous nephritis.

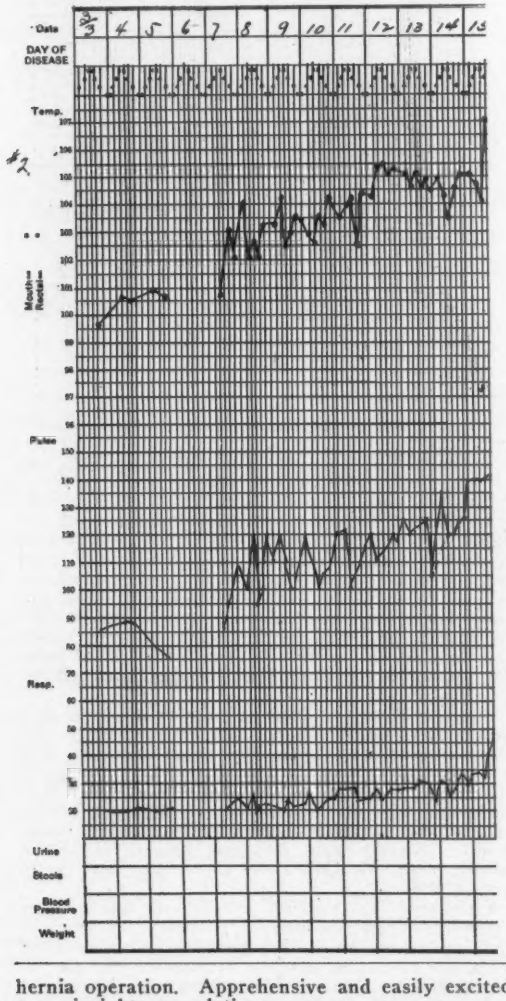
Case II—H. K. White, single, age 23, painter. Admitted November 20, 1915; died March 15, 1916. Diagnosis: Manio-depressive insanity, maniacal phase.

Family History: Father alcoholic; mother insane (Ukiah 12 years).

Past History: Has been addicted to liquor, extent unknown.

Present Illness: Onset sudden, November 13, 1915, about 25 days after operation for hernia. Excited, noisy, euphoric, talkative and incoherent; very delusional.

Examination: Slight Romberg, K. J. sluggish; tremor of hands; recent scar for double inguinal



hernia operation. Apprehensive and easily excited, poor insight; no elation.

Progress Notes: March 3, 1916, began running a temperature starting at 99.6° and reaching 104° on March 8; with onset of temperature, patient was noisy, restless, destructive. In restraint continually. From March 8, to date of death on the 15th, temperature continued high, pulse and respiration in proportion. On March 15, at 5 p. m., temperature 107°, pulse 140, respiration 48. Expired at 6 p. m. On March 14, a few fine, crackling rales were heard at the right apex.

Laboratory Findings: Urine: Hyaline and granular casts, some pus in blood, cloud of albumen. Blood: Wassermann — — —; leucocytes 22,000; culture upon two occasions, March 8, and 13, negative. Cerebro-spinal fluid: Pressure normal—chemical and microscopical examination normal.

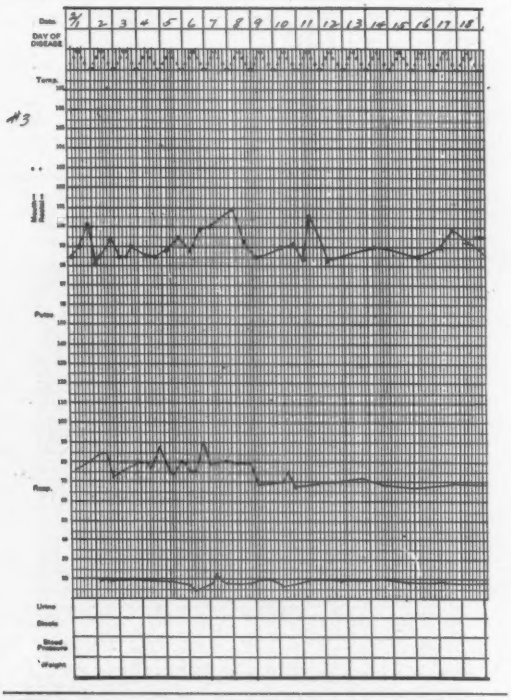
Autopsy: By Dr. H. R. Oliver. Hemorrhagic, broncho-pneumonia, fatty degeneration of the heart muscle, acute parenchymatous nephritis.

Case III: M. S., age 24, Madera Islands, laborer. Admitted January 11, 1916. Diagnosis: Acute mania.

Family History: A sister was insane.

Past History: Has taken liquor in moderation; has been mild-mannered; mental capacity good; general health good.

Present Illness: Began January 3, 1916. Was rapid in onset. Patient was noisy, restless, violent and dangerous, incendiary and excited, threatened homicide. Memory is good. Sleeps poorly. Has hallucinations, fixed delusions, is destructive, tearing his bedclothes, imagines that there are persons under his bed, cries and holloes, attempted to kill and to do great bodily injury. He thought

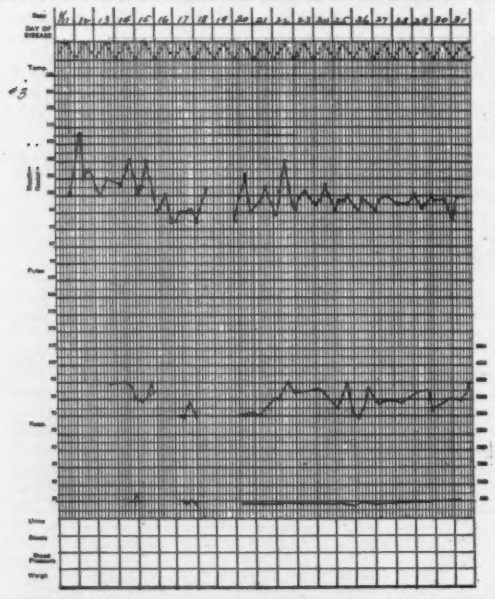


that he saw and was talking to people who were not present. Talks incessantly and incoherently. Impossible to get his attention.

Progress Notes: On January 12, 1916, temperature 103.6°. Temperature remained above 100° to January 25, 1916, after which with few exceptions it has remained below 100°, with exception of — days in April. Patient was noisy, confused, and in restraint most of the time, up to February 15th, after which the excitement gradually subsided and he has now, May 1st, 1916, been quiet and fairly rational for about thirty days.

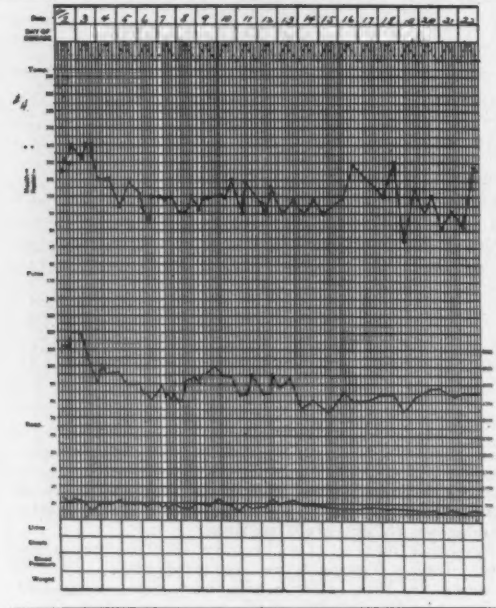
Laboratory Findings: January 12, 1916: Urine: Sp. Gr. 1.025. Albumen—slight trace. Few Hyaline casts, one granular, few pus cells.

February 3, 1916: Urine: Sp. Gr. 1.025. Albumen—very faint trace. Few Hyaline casts, few pus cells. Blood serum, Wassermann, — — —.

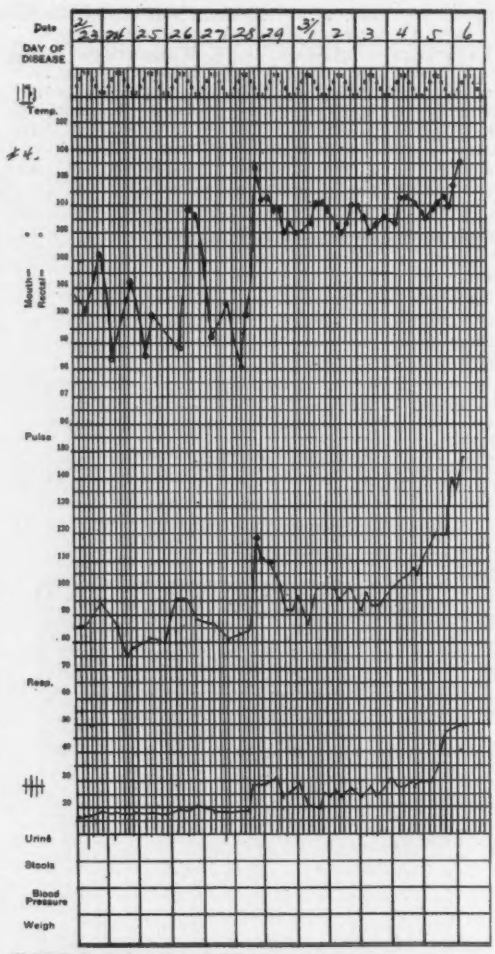


Case IV.—J. F., No. 15593—30; white, male, age 41, carpenter. Admitted February 1, 1916; died March 6, 1916. Diagnosis: Inebriate sentenced for one year.

Family History: Father died of progressive, muscular atrophy; mother of pelvic tuberculosis.



Past History: Separated from wife; typhoid fever twenty-two years ago; three sunstrokes; liquor and tobacco to excess since 1892, recent from forty to fifty whiskies and fifty cigarettes per day.



Present Illness: Began in September, 1915; voluntary commitment, using liquor to excess.

Examination: Temperature of 103°, patient appears on the border of delirium; dullness at the right base, tactile and vocal fremitus increased over this area; breath sounds distant; left lung hyper-resonant; heart—apex in fifth interspace, nipple line, a thrill felt over the apex region, a soft blowing murmur heard throughout systole, all over the cardiac area and in the axilla, a short, barely audible diastolic murmur is also heard; radial pulse 100, moderate tension, low volume; some radial arterio-sclerosis.

Progress Notes: After admission the patient's temperature continued to run between 103° and 105°, accompanied by a low grade delirium, and reaching 105.6° just preceding death.

Laboratory Findings: Urine: On several occasions showed cloud of albumen. Hyaline, epithelial and granular casts, few leucocytes and blood cells. Blood: Wassermann, negative; leucocytes 10,000; culture, many Gram-positive diplococci tending to form chains.

Autopsy: Heart: mitral valve shows recent vegetative formation; aortic valve shows on anterior cusp an enormous soft vegetation with necrotic areas, the cusp presents one perforation the size of a lead pencil. Cultures from the heart's blood and smears from the valves shows the same organism found in blood culture before death. Spleen septic; acute, parenchymatous nephritis, infarct of right lung.

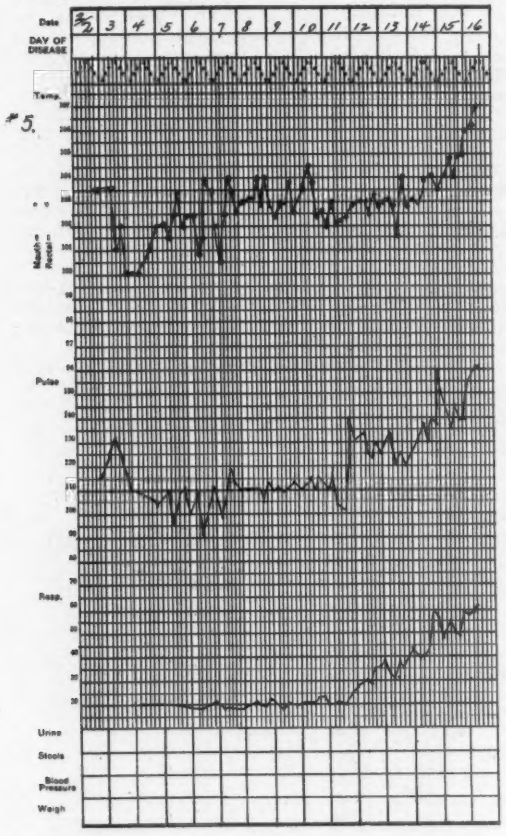
Case V.—F. E., No. 15597—30; white, male, age 20; laundryman; single. Admitted February 2, 1916; died February 16, 1916. Diagnosis: In suspenso.

Family History: Mother hysterical; mother's sister insane.

Past History: Convulsions when an infant (gastro-intestinal): slow in school.

Present Illness: Onset January 21, 1916; auditory and visual hallucinations; noisy, restless, divertible, refuses food, stereotyped movements; repeats phrases.

Progress Notes: Patient received in a state of acute delirium, temperature 103.6°, which could



not be accounted for by repeated physical examination; delirium of a very acute, severe type continued, accompanied by a very high temperature until death on the fourteenth day after admission. Patient was very noisy and destructive, in restraint continually.

Laboratory Findings: Blood: Wassermann, negative, leucocytes 24-25,000. Widal, negative: culture February 9th and 14th, both show diplococcus tending to form chains. Urine: On admission, a faint trace of albumen, occasional Hyaline casts; February 9th, cloud of albumen, many Hyaline and granular casts; occasional blood and pus cell.

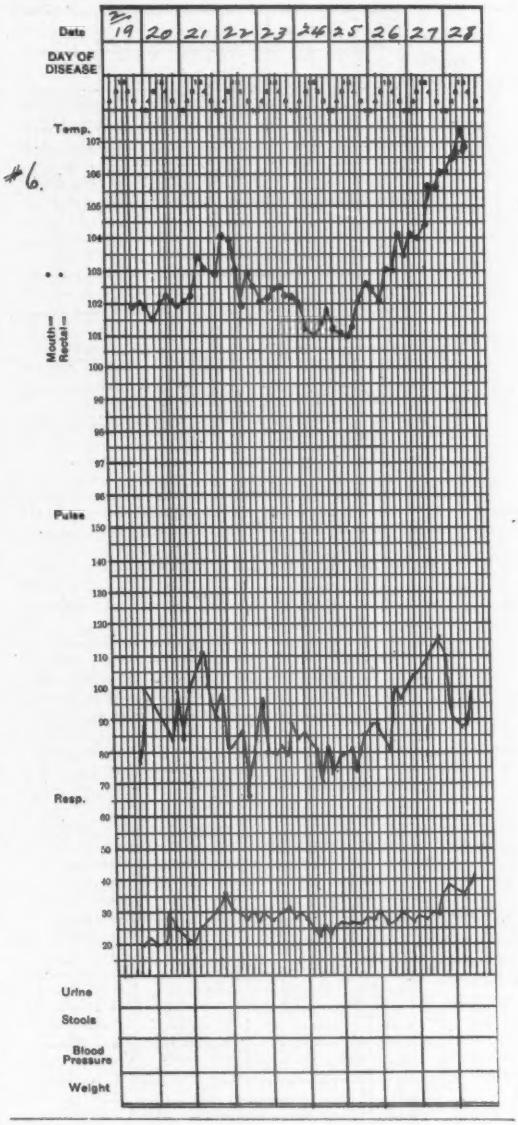
Autopsy: No abnormality observed, except old, dense adhesions about the gall-bladder and ascending colon. Cultures taken from the heart, spleen, gall-bladder and mesenteric lymph nodes, all negative.

Case VI.—C. N., No. 15616—377: White; male; clerk; age 51. Admitted February 15, 1916; died February 28, 1916. Diagnosis: In suspenso.

Family History: None obtained.

Past History: Peculiar since 1913; no other history.

Present Mental Illness: Began about December 15, 1915; onset gradual; depressed and stuporous; irrational acts.

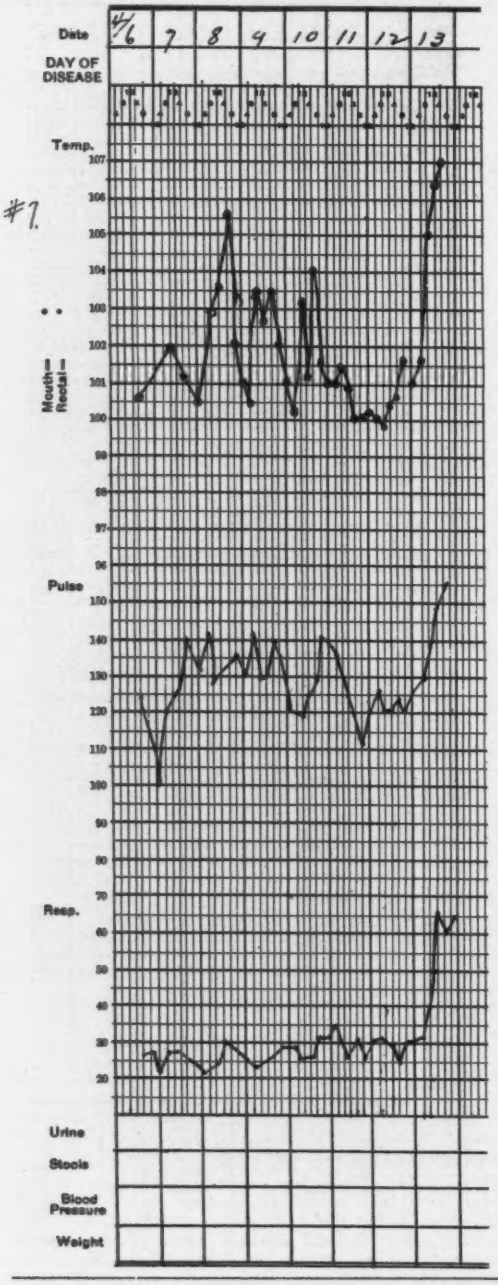


Progress Notes: On the second day after admission, the patient developed hallucinations of sight; on the third day, a temperature of 99.2°; this temperature continued to rise with few slight remissions until the tenth day, reaching as high as 107.4° just before death. Fever was accompanied by a low grade of delirium and very irregular heart action.

Laboratory Findings: Urine: cloud of albumen, few Hyaline casts, some pus and blood. Blood: culture shows a Gram-positive diplococcus tending to form chains.

Autopsy: Heart: left auricle enormously dilated and hypertrophied; mitral valve calcified and admits the tip of one finger; on the mitral valve are fissures from which cultures are made, showing the same organism as found in the blood culture. A general arterio-sclerosis, septic spleen, and parenchymatous nephritis.

Case VII—J. V., No. 15797—30: White; male; age 25; cook. Admitted April 5, 1916; died April 13, 1916. Diagnosis: Delirium tremens (?).



Family History: None obtained.

Past History: Arrested in San Francisco, March 31, 1916, charged with drunkenness; at the Emergency Hospital; noisy; restless; delirious; profane.

Present Illness: Exact date of onset not known. Upon admission temperature normal, visual hallucinations; the following day, temperature 100°; very noisy and restless.

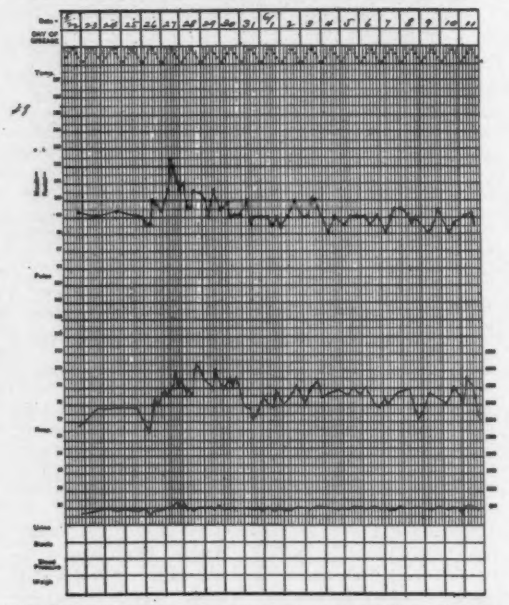
Progress Notes: Temperature continued to rise, reaching 105.6° on April 8th. Patient threw himself about in bed, made grimaces, very destructive. Repeated physical examination revealed nothing abnormal. A few arythematous patches are observed over the thighs, hips and abdomen; temperature continued high. Examination of urine showed a marked acidity which would not yield to large doses of bicarbonate of soda. Intravenous injections of 1000 c.c. solution containing 10.2 grams sodium bromide, 8.6 grams of sodium bicarbonate and 5.2 grams sodium chloride, to this was added 200 c.c. of a thirty-three and one-third glucose solution. On April 11, 1916, the urine was still acid, and this intravenous infusion was repeated but no sodium bromide being given. The urine after this became alkaline, and the temperature reduced to 101.6°. April 13, the temperature rose steadily during the morning hours; at nine a. m., temperature 105°, pulse 136, respiration 64; at 3 p. m., temperature 107°, pulse 155, respiration 64; patient died at four o'clock.

Laboratory Findings: Blood—Leucocytes 23-24,000; culture negative upon two occasions. Urine—On Admission faint trace of albumen with a few Hyaline casts, strong acid reaction; later, showed light cloud of albumen with Hyaline casts, pus and blood cells.

Autopsy: No abnormality observed except extreme dryness and bright red color of all tissues; extreme viscosity of blood; severe broncho-pneumonia of the lower lobes of both lungs.

Case VIII.—F. H., No. 15771—30: Male; Japanese; 48; laborer; married. Admitted May 22, 1916. Diagnosis: Lues, central nervous system (?).

Family and Personal History: Negative as far as known; very little information obtainable.



Physical Examination: Small, fairly well nourished Japanese; pupils unequal and irregular; reaction fairly prompt, excursion somewhat limited; remains of an iritis evident. Knee jerks and triceps lost. Tongue deviates slightly toward the right; tremor of hands; radial arterio-sclerosis.

Mental Examination: At time of admission pa-

tient was restless, noisy and confused; temperature 99.4°. This state continued until June 12, being accompanied by a further elevation of temperature, reaching 102.4°.

Progress Notes: Extreme delirious confusion, gradually subsided until June 12, when the patient still showed talkativeness and restlessness. An acute nephritis was present on admission, subsiding with the marked confusion. A blood culture on June 6 showed a scant growth of gram positive diplococci with a tendency to form chains. Wassermann blood serum XXX. Cerebro-spinal fluid XXX. Globulin XXX. Cells 184. Colloidal gold reaction 4455554432. At the present time, July 1, patient is restless, destructive and at times untidy.

SELECTED POINTS IN GASTRO-INTESTINAL DIAGNOSIS.*

By CARO W. LIPPMAN, M. D., San Francisco.

It is a well known fact that profuse diarrhea may occur in Graves' or Basedow's disease as well as in Addison's disease. These diarrheas are of two types, one associated with large amounts of fat in the stools, the other with no signs of disturbance of fat absorption. That the presence of a profuse watery diarrhea may serve as a differential diagnostic point I wish to demonstrate with the following case history:

Previous history—man of 63. Rheumatism since the age of 11 with red, swollen joints, laid up about three months in each of five attacks. Six years ago typical gallstone attacks requiring morphia, similar attacks two months ago. For last six months nausea, retching, belching, but no vomiting. This condition is not affected by the kind of food he eats. Aversion to meat for the last months. Loss of 50 lbs. in weight in six months which he ascribes to his not eating and a daily watery diarrhea—(two to twelve stools). He helped this diarrhea along by taking cathartics. He had an evening rise of temperature, 102° every second night. No malarial organisms found. Six weeks ago painful lumps on spine appeared (lipomata). No occult blood in stools. The diagnosis before I saw him was gallstones plus psychasthenia. He was sent to me with the question of a malignant growth in the stomach. He still weighed about 200 lbs. Physical examination was unsatisfactory. He had a palpable spleen, tenderness in the gallbladder region, and painful fat tumors along the spine. Otherwise, physical examination was negative. Blood pressure, 150 mm Hg. More important than the general physical examination was the impression of asthenia. It exhausted this 200-pound man for an hour to walk from the elevator to my office. And this without demonstrable cause. Fluoroscopic examination was negative for carcinoma of the stomach. The stool examination with the Schmidt test showed a large liquid stool with no free fat globules, few fatty acid crystals, no starch granules, no mucus. The only abnormal element was a large amount of connective tissue with a few meat fibres imbedded therein. This stool was not the stool of a chronic irritative bowel condition. The absence of the fatty constituents in a diarrhea stool militated against pancreatic disease, although it did not rule it out. The stool was of the type most often seen in a toxic diarrhea. The asthenia, (even without low B. P.), the presence of painful fatty tumors, the toxic diarrhea, all pointed to one of the internal secretory glands as the cause of the disturbance, in this case, to the suprarenal glands. Gallstones alone did not account for the whole symptom complex. At operation some months later gallstones and a left-sided hypernephroma were found. Earlier operation might have prolonged the man's life.

The point to which I wish to call attention is that we must always think of the internal secretory glands in chronic diarrhea and always examine the stool by means of the Schmidt test diet. With the aid of the Schmidt test diet we may demonstrate an unsuspected pancreatic disease, even more important, because more commonly met with, we may determine the presence of a carbohydrate or proteid dyspepsia, conditions which are rarely diagnosed in our community and which are comparatively simple to remedy. In these cases the surgeon is in doubt and often takes out the appendix. The patient is then minus his appendix but still has the original disease. It would redound much to the advantage of the patient if a Schmidt test diet be given before a chronic appendix is diagnosed and removed. Of course, we have a chronic appendix at operation in these dyspepsias but it is only the chronic appendix so commonly associated with a chronic irritation of the whole bowel.

Now I will turn to a condition in which the stool examination helps not at all in the diagnosis and history only sets us on the right track. In any case which has a fever, perhaps slight cough and signs of fluid or pleurisy at the base of the right lung and besides this has a history of acute belly-ache at some time previously, think of a subphrenic abscess and examine the case fluoroscopically. Here I wish to emphasize, as always, that the most important point in abdominal diagnosis is the history, next in rank and at all times all-important in giving the indication for prompt operation, the radiological examination; thirdly, the examination of the stool for occult blood, or with the Schmidt test diet, as the case may require. I rate these in the order of their importance; all other examinations are of lesser importance and contribute other than confirmatory evidence only in exceptional cases. Of course, I am talking of diseases which lie beyond the reach of the proctoscope.

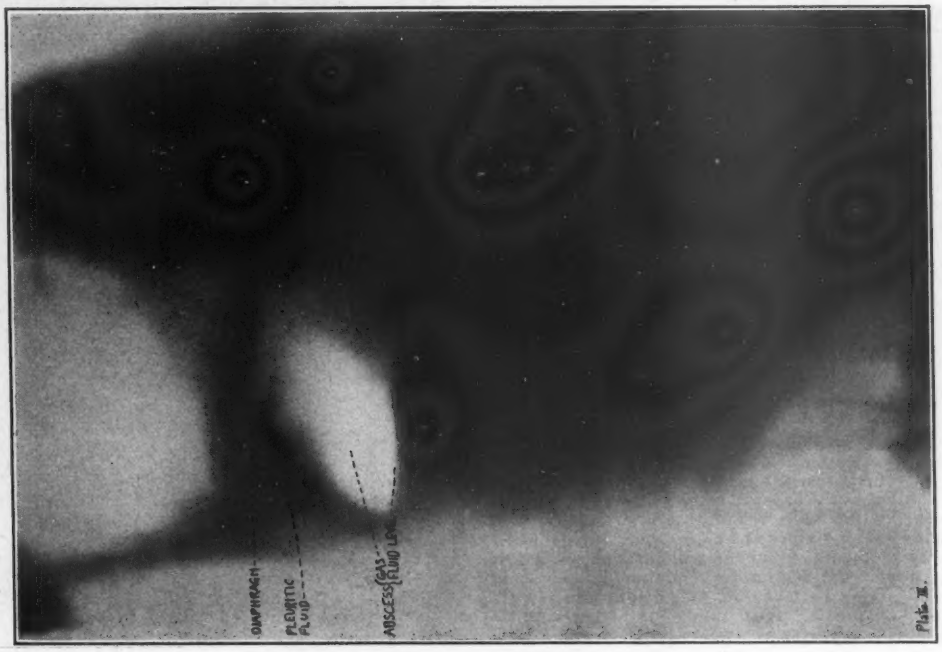
Case No. 1 (see Plate No. 3) was clinically diagnosed inflammatory condition of the abdomen, carcinoma. Six months ago, gas formation; six weeks ago patient was under the care of a stomach specialist. No dark stools. No vomiting. Four weeks ago, severe attack of abdominal pain with "hard muscles" after a lobster dinner. No fever. In bed one week. One week ago no free HCl after test meal. P. E. Ascites. Swelling of legs. Signs of fluid at right base. Temperature rose occasionally to 101°. Fluoroscopic examination: beneath diaphragm a fluid level which shows waves and droplets on shaking the patient —(see Plate No. 4). Duodenum distorted, lying along base of liver shadow moving with it (adherent). Liver indents upper part of stomach. Diagnosis: gas containing subphrenic abscess. Adhesions about duodenum with distortion of that organ. Probable perforated duodenal ulcer. Operation: pints of stinking pus removed from above liver.

Case No. 2 was that of a man with a history of pain in the epigastrium for three years. (See Plate No. 1). No vomiting or nausea. Fifteen months ago patient had severe pain in the epigastrium, fainted, later vomited about two quarts of dark blood. In hospital for a few weeks with

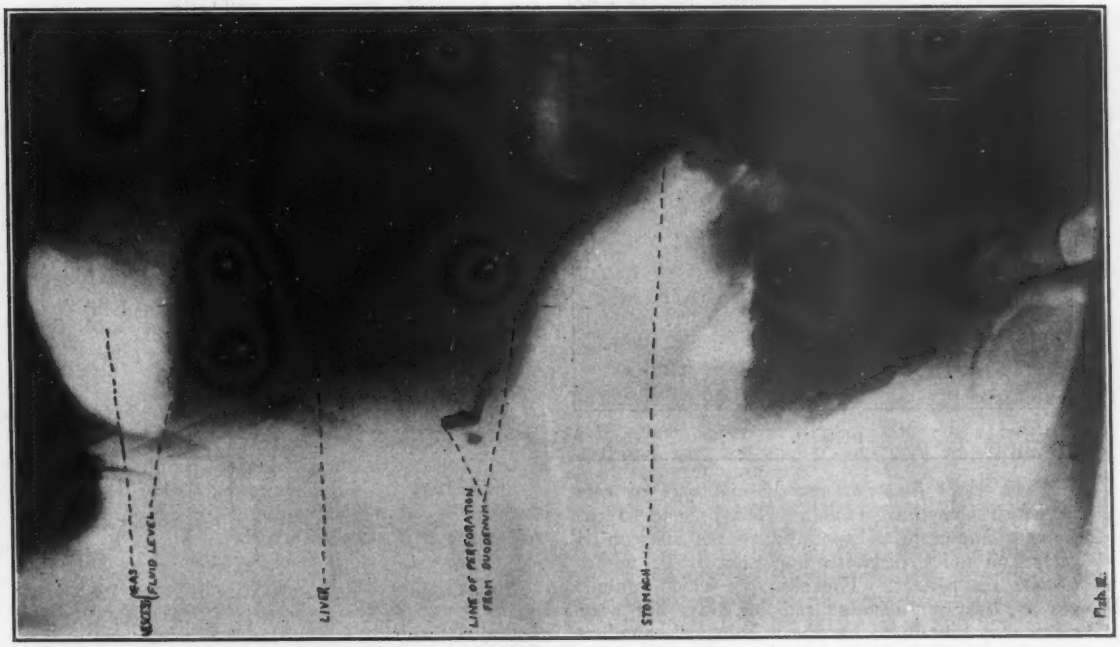
* Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.

Subphrenic abscess. Plate I.

Subphrenic abscess. Plate II.



Subphrenic abscess. Plate III.



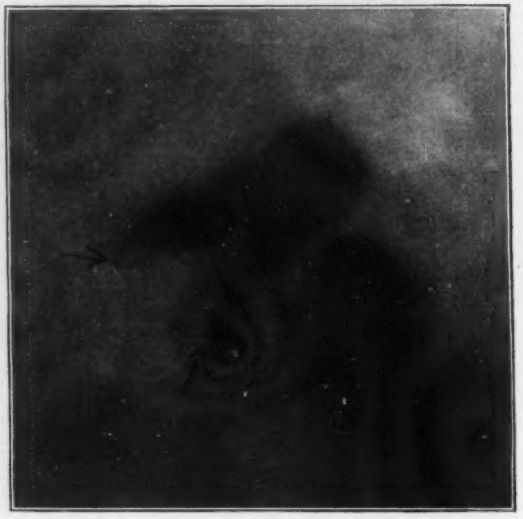
Subphrenic abscess. Plate IV.

diagnosis of peptic ulcer. For last eight or nine months pain came on two to three hours after meals, relieved by eating soda. Three days before entrance to hospital, pain was exceedingly severe. The physical examination showed bronchial breathing in the right lower lung, a liver edge palpable three fingerbreadths below costal margin. Patient is very tender over gallbladder region and just to left and above umbilicus. The patient had no temperature by mouth, 102° by rectum. The patient lay in the hospital for twelve days with a diagnosis of ulcer. The surgeon, at his first examination, suggested subphrenic abscess as a possibility. It was sent to me for fluoroscopy. Fluoroscopic report: Below right dome of diaphragm is fluid level with gas above. Level stays horizontal in all positions. No fluid in pleural cavities. Diagnosis: subphrenic abscess containing gas. Operation: about ten ounces of stinking pus drained from below diaphragm.

Case No. 3 (see Plate No. 2.) Operated on for ruptured appendix, August 19th. About three weeks later began to have an evening rise of temperature to 100°, which kept up for a month, the temperature occasionally rising to 102°. There were no other presenting signs or symptoms except some dullness at base of right lung. The case was sent to me with the question of tuberculosis (October 14th). Fluoroscopic report: Lungs show slight exudate in right costodiaphragmatic angle. Right dome of diaphragm immovable, high in chest cavity. Left dome of diaphragm freely movable. Beneath right dome of diaphragm is fluid level with gas above. Fluid level forms waves and droplets on shaking man. Diagnosis: Subphrenic abscess, containing gas. Operation: Three pints of foul stinking pus removed from above liver.

Plate V.

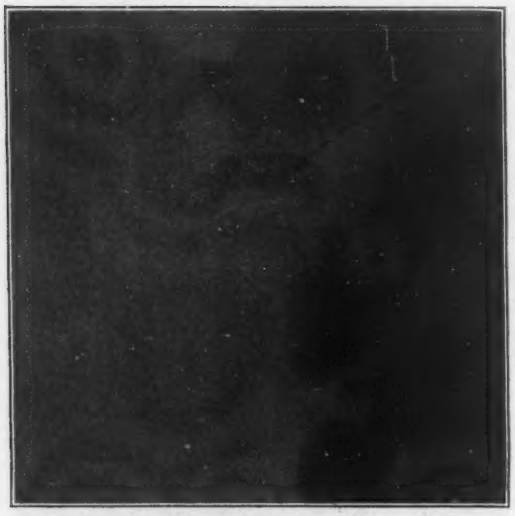
These cases illustrate merely one type of case in which abdominal radiology has become so extremely important. Especially to the surgeon is early and quick diagnosis important if he wishes to save his patient. The abscesses which contain gas are easy to diagnose radiologically, but even when they contain no gas the radiological examination is exceedingly important in differential diagnosis. We can rule out fluid or pus in the lung with a quick glance at the fluoroscopic screen. We can see whether the diaphragm is movable or not. Upon this latter point I wish to lay extreme emphasis. I think of a case which I saw a year ago. A man lay sick with a septic temperature and pain in the right side. The clinical diagnosis lay between subphrenic abscess and perinephritic abscess with the possibility of tuberculosis. The fluoroscopic showed no fluid of any consequence in the lungs and a freely movable diaphragm. In the presence of a subphrenic abscess the diaphragm is never movable in my experience. Of course, you may have a fixed diaphragm without a subphrenic abscess being present. With the aid of the fluoroscopic examination we reached a diagnosis of perinephritic abscess by elimination. Lumbar incision was made and the pus removed.



Duodenal ulcer. Cole's defect. Plate VI.

Another point which helps me out in my obscure gastrointestinal cases is the observation of the distortion of the first part of the duodenum. The normal cap is roughly triangular and perfect in its outline. When this is distorted in any way and the distortion is constant we know that there is some process involving the first part of the duodenum. Whether this be duodenal ulcer with the scar tissue producing the defect or gallbladder disease our history and stool examination must decide. A duodenal ulcer history with a defect is duodenal ulcer with about 90% correctness in my private practice. I wish to insist about private practice because I make an observation of at least two hours to be assured that the defect is constant, whereas in clinical work this is impossible. The addition of occult blood to the syndrome, of course, makes the diagnosis even more accurate. I give the history of three typical cases operated by one surgeon.

Case No. 1 (see Plate No. 5). Mr. B. Age 55. Every ten days to two weeks, temples would swell up, then vomiting after having headache (migraine). Pain in right hypochondrium, three hours after meals for fifteen years. Attacks in fall and spring, principally. Never vomited until recently. Never vomited from breakfast or the



Chronic appendix. Plate VII.

day before. No loss of weight. Constipated. Pain relieved by eating. Fluoroscopic examination showed defect in cap to be constant, 1-6 residue of a Rieder meal after six hours. Diagnosis of duodenal ulcer with mild grade of pylorostenosis confirmed at operation.

Case No. 2 (see Plate No. 6.) Mr. Z. Classical duodenal ulcer history for many years. Pain two hours after eating. Defect in cap constant on fluoroscopic examination. Diagnosis: Duodenal ulcer. Operation showed defect to be due to thumb-like mass of adhesion in first part of duodenum.

Case No. 3 (see Plate No. 7). Mr. By. Age 54. Stomach trouble for several years. For last year worse. No vomiting. One year ago got sick three to four hours after meals. For the last few months gets nauseated with oppression in belly one to two hours after eating. No dark stools, has not lost weight. This case had a perfect duodenal cap so I went looking for other lesions. I show you his appendix, which was fixed and immovable on the fluorescent screen. Ninety-six hours after the last bismuth meal there was still a residue in the appendix. No tenderness over appendix. A diagnosis of chronic appendicitis was made. Removal of chronic appendix with recovery.

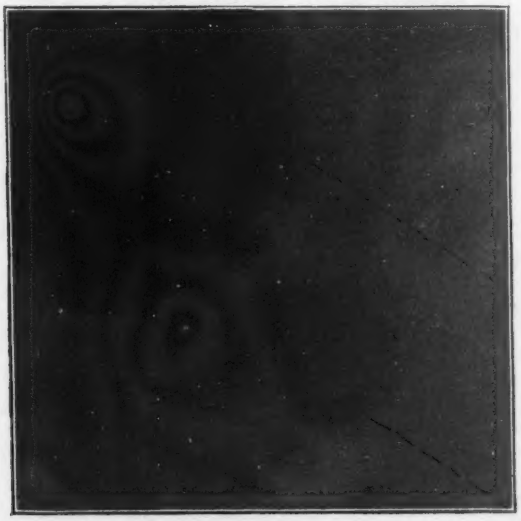


Plate VIII.

I have seen so-called duodenal ulcer history occur in so many belly conditions—particularly in gallbladder affections and general ptosis—that I think of it only as a symptom of duodenal irritation and deprecate the operation for duodenal ulcer on the basis of history alone as Moynihan advocates.

Another type of case in which the history gives us the diagnosis of ulcer, the stool may or may not give us information as to its activity, i. e., occult blood may or may not be present in the stool during the period of our examination but the fluoroscope gives us the indication for the urgency of operation. I refer to the cases of penetrating ulcer of the stomach. Any ulcer which has gone on to penetration must and should be removed operatively. The penetrating ulcer is characterized fluoroscopically by a hole in the wall of the stomach, the so-called niche of Haudek. The symptomatology of these ulcers does not differ materially from that of ordinary gastric ulcer—some cases having but little pain are diagnosed as chronic dyspepsia, others in which pain is the chief symptom are more readily diagnosed. I present a few cases without hour-glass formation because they are the most frequently missed. (See Plate No. 9.) To make this diagnosis of callous penetrating ulcer we must have not alone a bismuth patch sticking out from the stomach but also an immovable patch. A pain point usually coincides with the hole in the wall—a gas bubble may or may not be present. If I do not see a niche once in 80 to 100 cases sent to me for examination I feel that I am missing them. This percentage held true not alone of San Francisco, but also in other places where I have worked. Whether this ulcer be ulcer or ulcercarcinoma is a matter for the pathologist to decide—rarely for the clinician or surgeon.

The last callous ulcer (See Plate No. 10.) with niche formation represents a truly important case in which I overlooked certain possibilities. Following is the case history:

Nov. 29, 1915. Mr. J. A. J. Age 45. Pain in epigastrium radiating through to back for six to seven years with free intervals. Pain about three hours after eating and at night between 11 p. m. and 1 a. m. Pain not relieved by eating. Belches much gas. Vomits mouthful of sour water when he has pain. Has lost 12 lbs. in six weeks. Constipated seven years ago. Jaundiced. Pain refractory to ulcer diet. Venereal history denied. At operation a bulging callous ulcer on the lesser curvature was found but likewise a typical patchy white luetic liver. The man was closed up without excision of ulcer, then the Wassermann was taken, which proved negative. Despite this, specific treatment was instituted. The man was relieved of all his symptoms.

Note: May 29 the man returned to my office—the niche has completely disappeared, likewise the man's symptoms.

I now wish to take up syphilis of the stomach not such as this last case may prove to be and as it is described throughout the literature—either with syphilitic ulcer, palpable tumor, or syphilitic pylorostenosis, but an earlier and milder grade of syphilis—a syphilis which is probably only expressed by a submucosal infiltration and a chronic gastritis with

swelling of the mucous membrane of the stomach as witnessed by the enlarged rugae seen on the screen. The symptomatology is illustrated by the following three typical cases:

Case 1. C. W. F. Age 33. Sept., 1915. For last three to four months feels as if he has lead in his stomach after meals—no pain, followed by vomiting spells ten hours after meals—just a couple of mouthfuls of water. Ulcer diet for some months which didn't help. Three days ago vomited up burning water and few teaspoonfuls of blood. No food vomited. Venereal denied. Doesn't drink. P. E. negative. Fluoroscopic examination. Antrum formation imperfect. (See Plate No. 11.) Cap of duodenum perfect. Rugae of stomach very marked on pressure. On the strength of the very marked size of the rugae the chronic gastritis symptoms—sense of weight in epigastrium, vomiting of bitter fluid, etc., and the absence of any etiological factors, I made a diagnosis of gastritis probably on a luetic basis. The Wassermann was then taken. It was triple X positive. Specific arsenic and mercurial treatments were given—the patient promptly got well but did not stay well, apparently on account of insufficient treatment. He is still under treatment.

Case 2. S. V. S. Age 40. Machinist. Three years ago first attack of bellyache—general pain throughout belly with rigidity of belly wall. Fever. This pain came on while working. No trouble since this attack. Ten days ago, bellyache, just

Penetrating ulcer. Plate IX.

before going to bed, dull ache. Sense of fullness on right side of belly not confined to gallbladder region. Lying on back relieves pain. Twelve to 15 glasses of beer a day is the most he has ever taken but may go months without drinking. No whisky. Venereal denied except for black spot on penis seven years ago. No secondaries of any kind noticed. Not treated for lues. P. E. negative. Fluoroscopic examination showed slight halt of bismuth at cardiac end of oesophagus. Antrum formation of stomach perfect. Cap of duodenum perfect. Stomach three fingersbreadth below iliac crests. Rugae large—mammelated. Here again we have the symptoms fitting into a diagnosis of chronic gastritis with enlarged rugae. A diagnosis of ptosis with chronic gastritis on an alcoholic and possibly luetic basis was made. The

Callous ulcer (luetic). Plate X.

Wassermann was taken and proved triple X positive. The man was treated with specific arsenic and mercury preparations, losing all his stomach symptoms with lightning-like rapidity.

Mr. M. T. M. Dec., 1914. Age 37. Chauffeur. One year ago indigestion, pain in epigastrium, a little to right, coming on three to four hours after eating, acid belching lately. No vomiting. Constipated. Good appetite until lately. Eating relieves pain. Lately pain has shifted to left hypochondrium—is constantly there, worse one hour after meals. Venereal—hard chancre? several years after. Physical examination—negative. Stomach as in cases 1 and 2 with prominent rugae. Cap of duodenum perfect. Tentative diagnosis of syphilis with localization in the gastro-intestinal tract was made. Wassermann was then done, proving triple X positive. Specific treatment immediately cleared up the symptoms.

Of course, the two questions which occur to you at once is why wasn't a Wassermann taken and specific treatment instituted before a complete examination? If you did this you would miss many a true ulcer and many a cancer because syphilis is really and truly a popular disease which occurs in conjunction with other conditions of which it is not the cause. And here I wish to state my belief that syphilis is a rare cause of typical peptic ulcer. Just as you may have a positive Wassermann with the rash of a pityriasis rosea so you may have a positive Wassermann co-existing with a true peptic ulcer. This fact is brought out very prettily by an hour-glass stomach with a penetrating ulcer, where the doctor wouldn't cut out the ulcer but did a simple gastrogastrostomy. After the operation the patient's husband turned up with incipient tabes. The doctor gave her luetic treatment to heal the ulcer but when the hour-glass had returned several months later he finally had to excise the ulcer with resultant cure.

To sum up, gentlemen, in every case of atypical ulcer symptoms with negative laboratory findings don't remove the appendix but remove blood for a Wassermann.

SEPTIC TEETH.*

By JOHN S. MARSHALL, M. D., Sc. D., F. A. C. S.
(Captain U. S. Army, Retired.)

The object of your essayist in presenting this subject is to place before you certain facts in relation to the pathology of these teeth, and a few practical suggestions as to their treatment, gained from clinical experience.

I am not presuming to pose as your teacher, but only desire to add my mite to the elucidation of this interesting and important subject. There will be no attempt upon my part to enter into the operative technic usually employed by the dental surgeon in the treatment of this class of teeth, for it would not only be tedious to you, but unprofitable.

Furthermore, there is a time limit set by your rules which must not be over-stepped; consequently, much of the detail which might, under other circumstances, be proper to present, must be left out.

Several interesting cases might also be presented, but I presume they would only duplicate others which have occurred in your own practice, and may therefore, for the same reason, be omitted.

Septic teeth may be divided into four classes:

(a) Teeth which have lost their pulp vitality and contain gangrenous pulps.

(b) Teeth which, by reason of containing devitalized pulps, in whole or in part, are producing chronic periapical irritation.

(c) Teeth which are devitalized and, by reason of their septic condition, are causing dento-alveolar-abscess, acute or chronic.

(d) Teeth which have been treated by removal of the pulp and filling of the root canal, but in which the dentinal tubuli and fibrillæ have not been thoroughly sterilized.

We purposely refrain from including in this classification those teeth which are affected with so-called pyorrhea alveolaris for, although their alveoli are in a septic condition, the teeth are usually vital, and, consequently, not septic.

Before entering upon the consideration of our subject, let us for a moment glance at the anatomy of a normal tooth, and its relation to the jaws.

A tooth is composed of enamel, dentine, cementum, a central pulp, and a membrane covering the root; and the tooth is set in a socket, or alveolus.

The superior anterior teeth, at their apices, are in close relation to the floor of the nasal fossa. The bi-cuspids and molars bear a similar relation to the floor of the antrum, and not infrequently penetrate it, while the inferior bi-cuspids and molars at their apices often lie in close proximity to the inferior dental canal, and sometimes penetrate into it; as was shown about a year ago by Dr. Josef Novitzsky, of this city.

The dentine is traversed by numerous little tubes, which contain delicate nerve fibrillæ, while the cementum contains numerous lacunæ, and these are connected with each other by delicate processes. The tubuli and fibrillæ of the dentine make up about 28% of the mass of this tissue. In other words, the dentine is composed of 72% of inorganic matter, and 28% of organic matter. Bone is composed of 66.50% of inorganic matter, and 33.50% of organic matter.

The central pulp is the organ of nutrition and sensation for the dentine and enamel, while the peri-cementum performs the same office for the cementum, and gives attachment of the tooth to the alveolus of the jaw. In other words, in this respect it is an articular membrane forming the dento-maxillary joint.

Sepsis produced by devitalized teeth and necrosed bone is generally considered as being one of the most virulent of all forms of sepsis having their origin in the tissues of the living body. With these statements before us, let us now turn to the consideration of the various classes of septic teeth.

(a) Teeth which have lost their pulp vitality and contain gangrenous pulps.

This is a very common condition in the mouth of individuals who are afflicted with rapid decay of the teeth. When dental caries reaches the central pulp, it exposes this organ to various forms of irritation, especially to the pyogenic micro-organisms. These irritants produce congestion and inflammation, which soon results in the death of the pulp, a gangrenous condition. The saphrophitic micro-organisms then attack it; liquefaction of the tissues takes place, and the material is usually discharged into the mouth through the cavity of decay and is swallowed. When the material is not discharged into the mouth, the condition designated as class (b) is usually developed.

The predominant micro-organism present in a gangrenous pulp is the B. pulpæ gangrenosæ of Arkovy, an exceedingly virulent organism, as you would soon realize should you be so unfortunate as to wound a finger with an instrument that had been in recent contact with such a pulp.

Prof. W. J. Gies and his collaborator, I. J. Klinger, have recently reported—December, 1915, in the *Journal of the Allied Dental Societies*, Vol. X, p. 454, having found the same, or similar organism in gangrenous dental pulps. They say:

"In decay of the pulp . . . . the cocci remain low in proportion; the thread forms almost disappear. The non-spore-forming rods continue to be quite as numerous as they were in the primary stages of caries, but a new form—an anerobic, putrifactive, spore-bearing rod—was found in large numbers." This organism they designate *B. putrificans*.

The virulence of this organism and its frequent presence in devitalized teeth has raised this question in the mind of your essayist, and is now presented to you for your consideration. May not this gangrenous condition of one or more dental pulps discharging into the mouth of an individual and constantly swallowed be one of the causes of ulcer of the stomach, induced by infection through some slight trauma of its mucosa? It has been my observation that individuals who are suffering from ulcer of the stomach usually have neglected mouths and many badly decayed teeth. Your essayist is, therefore, inclined to the opinion that

* Read before the San Francisco County Medical Society, February 8, 1916.

gangrenous pulps, by reason of the great virulence of the organisms found in this disease, may approach the condition of a specific cause of ulcers of the stomach. Of course, the question of proof, absolute proof of this assumption, would require team work in research upon the part of the bacteriologist, the internist, the surgeon and the oral specialist. This, we have not yet had the opportunity to carry out.

A very large majority of the micro-organisms that enter the stomach are destroyed by the action of the gastric secretions. Certain pathogenic organisms, however, are very resistant to the action of these secretions; for instance, the bacillus tuberculosis, the bacillus coli communis, the bacillus typhosus, the spirillum of Asiatic cholera and others. This is probably due to the fact that they possess a very resistant external covering or envelope which is not affected by the gastric secretions. The bacillus pulpæ gangrenosa is evidently a saprophite, as it is only found in the dental pulp when this organ is in a decomposing or putrefying condition.

Treatment of Class A Teeth. The usual treatment for a tooth in this condition is the extirpation of the gangrenous pulp, sterilization of the pulp-canal and the dentinal tubuli and their contents and, later, hermetically sealing the canal and the cavity of decay with a suitable filling material. This would render such a tooth entirely innocuous. This is not, however, always possible for various reasons; viz., the small size of the canal, occlusion of the canal at some portion of its length, or abrupt curves or angles in the form of the root.

Teeth, the canals of which cannot be opened to their root-apex (and the X-ray picture will indicate that), should be extracted, as all attempts to place such teeth in a healthy condition will be fruitless.

No up-to-date dental surgeon or oral specialist will to-day neglect to employ the X-ray as a means of diagnosis in these cases.

(b) Teeth which, by reason of containing devitalized pulps, in whole or in part, are producing chronic peri-apical irritation.

Peri-apical irritation in these cases is due to septic micro-organisms which have passed from the pulp-canal into the peri-apical tissues. The irritation may be mild or severe in character, depending upon the number and the virulence of the organisms present, upon the one hand, and upon the vital resistance of the tissues and the phagocytic activity of the white blood-cells upon the other.

In the milder cases the irritation assumes a chronic type, which usually results in certain changes in the surrounding bone structure known as rarefying osteitis, or osteo-porosis, or in the formation of a mass of fungus granulation tissue—an infectious granulation tumor; or of a blind abscess, surrounded by a more or less extensive area of bone resorption; while in other cases it may produce hypertrophy of the external alveolar plate overlying the infected area.

Upon the extraction of such teeth the granuloma, or the abscess sac, as the case may be, frequently comes away attached to the apex of the root. Teeth in this condition may go for months or years without causing any objective symptoms other than an occasional slight soreness following a cold, or of unusual stress applied in mastication, like biting upon a piece of bone, or a bird-shot.

This form of dental sepsis and that designated as (d) class are, by reason of their insidious character and chronic type, among the most dangerous to the general health.

These are the conditions that are so often found associated with articular rheumatism, arthitis deformans, neuresthenia, neuralgias, neuritis, certain forms of nephritis (septic), the "septic gastritis" of Hunter, myocarditis, endocarditis and pericarditis.

You are all familiar with the researches of Billings, Rosenow, Hartzel, and others along these lines, so I need not take up your time by quoting from their work. It seems, however, to be an established fact that dental sepsis is a condition that must not be overlooked when searching for a rational explanation of the causes of the diseases just mentioned.

In the severe type of irritation of class (b) the condition rapidly progresses to that of class (c) in which a dento-alveolar abscess is formed.

In the treatment of the chronic type of class (b) the first step is to secure a good X-ray picture. We say "good" because there are so many bad ones made; so bad that one may read into them almost any fallacy which, at the time, may obsess the mind. With this good picture the conditions of the case are as plain as an open book. The important question to be decided is—what shall be done with these teeth? Shall they be extracted? We answer not in every case. In fact, many of them can be successfully treated, *cured,* and rendered innocuous and serviceable for many years. There is, however, a growing tendency upon the part of many physicians to advise the extraction of all devitalized teeth. This, we believe, is a mistake, in view of the fact just stated. The conservative dentist will not attempt to treat one of these teeth if the X-ray picture reveals an apparently insurmountable obstacle in the form of the root and its canal; or in which there is a considerable involvement of the surrounding bone. Under such circumstances, the tooth should be extracted and, if the bone were involved, this area should be thoroughly curetted.

The teeth are valuable organs, and man is only endowed with two sets, consequently, the unnecessary loss of even one permanent tooth is a serious matter; but, on the other hand, the health of the individual is of more consequence, and of more value than many teeth. Wisdom and conservatism have no better place for their exhibition than in this connection.

(c). Teeth which are devitalized and, by reason of the septic condition of the root-canal, are causing a dento-alveolar abscess, acute or chronic.

Teeth of this class, when the abscess is of the acute type, are exceedingly dangerous to health and not infrequently end fatally from

acute septicaemia. When the abscess is of the chronic type it may give rise to a low grade of general sepsis, resulting in such diseases as those just mentioned under class (b).

The Bacillus pulpae pyogenes of Miller is generally thought to be the organism responsible for the establishment of acute dento-alveolar abscess. It is found in decomposing and gangrenous pulps and in putrescent root-canals. It is exceedingly virulent. White mice, when inoculated with it by injection into the peritoneal cavity, die in from 18 to 20 hours.

When a tooth is the seat of an acute dento-alveolar abscess, there is always a considerable involvement of the bony structure at the epex of the root, and, sooner or later, the abscess points through the external plate of the alveolar process, generally toward the lip or cheek, or it may seek an exit along the side of the root, discharging at the margin of the gum. Occasionally it points toward the tongue, this more often in the lower jaw than the upper for reasons that are patent. Sometimes the swelling is very great. When associated with the upper jaw it not infrequently closes the eye; and when located in the lower jaw, in the region of the molars, it may be so extensive as to make deglutition impossible, and greatly obstruct breathing. This condition is sometimes erroneously diagnosed as Ludwig's Angina.

A chronic dento-alveolar abscess is usually the sequel of an acute abscess which has established a fistula. These conditions, if untreated, may persist for months or years without causing any alarming objective symptoms. There is generally a constant discharge of pus into the mouth, and the predominant micro-organism present is usually the streptococcus viridans. This is the organism which, according to Billings, Rosenow, Hartzell and others, seems to be the chief factor in the production of so many of the diseases which we now know have a septic origin.

The treatment in the acute cases, if the temperature goes above 100° F. should be immediate evacuation of the pus, if it can be reached, or failing in this the extraction of the tooth. Acute septicaemia is to be feared if prompt removal of the focus of infection is not obtained.

(To be concluded in November, 1916.)

ROCKY MOUNTAIN SPOTTED FEVER—ITS PREVALENCE AND DISTRIBUTION IN MODOC AND LASSEN COUNTIES, CALIFORNIA—A PRELIMINARY REPORT.

By FRANK L. KELLY, M. D., Gr. P. H.,

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Acting under instructions from Dr. J. G. Cumming, director of the Bureau of Communicable Diseases, California State Board of Health, I made in May, 1916, an investigation in order to determine the prevalence and geographic distribution of Rocky Mountain spotted fever in Modoc and Lassen Counties. Although for several years the disease has been known to be present in the northern part of the state,[1 2 3 4] this was the first attempt made to definitely establish its existence and to study its distribution. The information was obtained from personal observations of cases, from interviews with physicians, and from replies to letters sent to each physician in Modoc and Lassen Counties. I wish to acknowledge with thanks the hearty co-operation received from the physicians in both counties, and to particularly thank Dr. W. E. Dozier, County Health Officer of Lassen County, through whose courtesy I was enabled to see four cases of this disease.

The first case seen was of a mild type. The patient, C. A., a former State Board of Health Inspector, contracted the disease in Secret Valley, ten or twelve miles west of the California-Nevada line. When seen by me, he had been ill for about ten days and gave a history typical of Rocky Mountain spotted fever. About a week after being bitten by ticks, the evidence of which was still present at the time of my inspection, he was taken with a severe headache, intense pain in the muscles and joints, particularly in the wrists, ankles and calves, a chill, a slight rise in temperature, and obstinate constipation. The muscle and joint pains grew worse, his temperature increased, and at times he became slightly delirious. On the third day, a macular roseolar eruption appeared over the forehead and upper thorax, followed in about twenty-four hours by the characteristic petechial eruption. When seen by me the rash consisted of a petechial eruption covering the whole body and involving the forehead, scalp, palms of the hands and soles of the feet. The hemorrhagic spots were for the most part discrete and had become confluent only in a few places. His temperature when seen was 101° and the maximum had been 103.6°. Dr. Dozier stated that this was a mild case and that commonly the temperature reached 105° and 106°. He said also that the eruption often became confluent with severe hemorrhages into the skin.

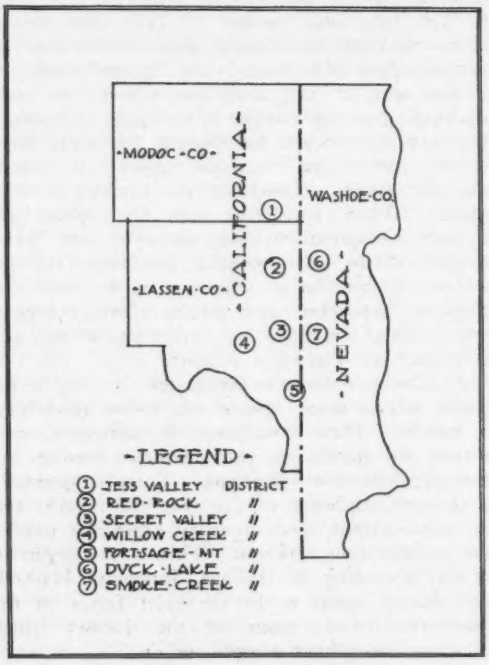
The second case was seen only in the prodromal period. The patient was a sheep herder who passed through Susanville on his way to Reno. When seen by Dr. Dozier and myself this man showed no signs of the disease excepting the evidence of tick bites and the beginning of a macular roseolar eruption over the forehead and chest. Unfortunately the patient could not be kept under observation so that a positive diagnosis was impossible. However, he had when seen, the usual prodromal symptoms of chilliness, headache, pains in his muscles, joints and bones, slight increase in pulse and respiration, slight rise in temperature, constipation, and general malaise. The infection was contracted in the Willow Creek District.

The next patient was B. F. H., another State Inspector, who was in the early stage of the disease. This patient, who also had contracted the disease in the Willow Creek district, had been ill for about a week. For several days he

had felt slightly indisposed but had kept at his work. Then he had been taken with a feeling of chilliness, severe headache, and severe muscle, bone, and joint pains. He had been able to be up and around for several days more, but three days before I saw him, he had gone to bed on account of the pain, headache and general malaise. When seen his temperature was slightly elevated, the body pains and headache were very severe, and there was a faint macular roseola over the face and chest. The patient was sent at once to the University of California Hospital in San Francisco. After his arrival there he did not develop a typical case of the disease as his temperature dropped to normal and remained so, and the typical petechial eruption did not appear. However, I feel that the typical prodromal symptoms following tick bites received in a region known to be infected, and the high large mononuclear count [5 4] (12% and 18% on two different counts) make justifiable the diagnosis of Rocky Mountain spotted fever. Typhoid and paratyphoid were ruled out by blood cultures and by agglutination tests. The fact that the petechial eruption did not appear does not invalidate the diagnosis, for a type of the disease in which the eruption is lacking is not uncommon. Wilson and Chowning [6] said that, "Several physicians, however, recognize in addition a mild type in which there are no 'spots,'" and, "That such cases exist there can be no doubt," while Ricketts [7] stated that, "Those that have had the greatest experience with the disease in man recognize a mild type in which the characteristic eruption is absent."

The fourth case was that of Mrs. S., who contracted the infection in the Fort Sage Mountain district. At the time I saw the patient in company with Dr. Dozier, all of the acute symptoms had subsided and her temperature had been normal for several days. However, the eruption was still present and was much worse and more marked than in any of the other cases. The spots were so numerous that there was hardly a place on her body or limbs where a fifty-cent piece would not have covered one or more of them. In many places the eruption had become confluent with the formation of large ecchymotic spots. Mrs. S. gave a history of a single tick bite received eight days before the beginning of her illness, and had had a typical case of the disease.

That at least three of these cases were Rocky Mountain spotted fever and that the disease does exist in California, I think there can be no doubt. The absolutely typical histories, the fact that the disease comes on only after the patient has been bitten by ticks, the characteristic eruption in most of the cases, and the seasonal and geographical distribution make the diagnosis unquestionable. Typhus fever, with which it is most liable to be confused, is ruled out by the fact that Rocky Mountain spotted fever occurs only in the spring and early summer, corresponding exactly with the tick season and in contrast to the winter prevalence of typhus, that it is rural rather than urban, that it occurs in persons not infested with lice, and that it is in no way associated with poverty, filth, or congestion. Typhus is still further eliminated by the fact that associates, attendants, and close contacts with patients suffering with Rocky Mountain spotted fever do not contract the disease, and so far as my investigation has gone I can agree with the statement of Anderson [5] that, "Two cases of spotted fever have never been known to occur in the same family the same season." The differentiation from the other exanthems is easily made by the fact that Rocky Mountain spotted fever is never contagious at any stage of the disease no matter how close the contact with non-immunes,



and by the character and distribution of the eruption.

This disease was first recognized in California by Drs. Coppedge and Gibson of Alturas, Modoc County, in 1903. At that time Dr. Gibson wrote a short article for the local newspaper and so far as I have been able to find out this is the first published account of the disease in California. Dr. Gibson also has a photograph of a patient taken at the height of the eruption, which is confirmatory evidence that the diagnosis was correct. It was not until 1908 that the disease was discovered in northern Lassen County by Dr. Kennedy of Eagleville, Modoc County, and three years later that Dr. Dozier of Susanville, Lassen County, diagnosed the first case in the southern part. Altogether I have had reports on thirty-eight cases, six in Modoc County and thirty-two in Lassen. These cases were reported to me as follows: Dr. Dozier, Susanville, 16; Dr. Kennedy, Eagleville, 11; Dr. Drucks, Susanville, 2; Dr. Walsh, Susanville, 2; Dr. Sanderson, Lassen,

1; Dr. Gibson, Alturas, 4; Dr. Coppedge, Alturas, 1; Dr. Stiles, Alturas, 1. The following table shows the distribution and mortality of the cases by years:

	Modoc		Lassen	
	Morbidity	Mortality	Morbidity	Mortality
1903	1			
1904	1	1		
1905				
1906				
1907				
1908			1	1
1909	1		2	
1910				
1911			3	1
1912	1		3	1
1913			2	
1914			2	
1915			11	2
1916*	2		8	
Total	6	1	32	5

* Figures for 1916 not completed.

From the above table it is seen that of the six cases in Modoc one died, and of the thirty-two in Lassen five terminated fatally, giving a mortality of about sixteen per cent. Thus the type of disease in California is apparently not so severe as in the Bitter Root Valley of Montana,[6] [1] where the mortality is approximately seventy-five per cent., nor as light as in Idaho, where the mortality is three to four per cent.

The infected areas in Modoc and Lassen Counties were located as far as possible. The six cases reported in Modoc all contracted the disease in Jess Valley, a small valley lying close to the Modoc-Lassen border and just west of the Warner Range of mountains. The thirty-two cases reported in Lassen were infected in four different districts. Four contracted the disease in the Fort Sage Mountain district in the southeastern part of the county, seven in the Willow Creek district in the central part, eight in the Secret Valley district in the east central part, and twelve in the Red Rock or Madeline Plains district in the northeastern section. One case, which occurred in 1914, seems to have contracted the disease within the town of Susanville. If this is so, this case does not fall into one of the four districts, but as this is the only infection reported in Susanville, I feel that either the history was not gone into carefully enough or, what is more probable, that a tick was carried in from one of the infected areas. This could easily have been done by a herder or other person from the Willow Creek district, for which Susanville is the purchasing center. Persons from this district frequently come into Susanville with their dogs, so that the infected ticks might easily have been brought into the town.

That these districts may not be definitely located and that they may have to be changed after a more thorough investigation is admitted. However, all of the information so far collected seems to confine the infection to these five areas and it remains for future investigation to either confirm or disprove this hypothesis.

From Fricks'[3] map one might be led to infer that the disease came into California through Oregon. This map shows infected areas in both Klamath and Lake Counties, Oregon, which border Modoc on the north. While the disease undoubtedly does exist in these counties, it is to a much less extent than in Baker, Crook and Grant Counties, and these foci of infection are 180 miles from the California border. Fricks does not give any infected area, either on the map or in the text in Washoe County, Nevada, but from recent reports it would seem that there have been at least ten cases in this county. These cases were infected in the Duck Lake and Smoke Creek districts. As the Red Rock and Secret Valley districts in Lassen County are just west of these districts and are in fact continuous with them, it seems highly probable that the disease reached California along this route rather than from Oregon. This supposition is further borne out by the fact that no cases have been reported from northern Modoc bordering the Oregon line.

While in Lassen County the Willow Creek and Secret Valley districts were visited and ticks collected. These were identified as Dermacentor andersoni (Stiles), the chief transmitter of Rocky Mountain spotted fever, and the classification was confirmed by Dr. K. F. Meyer, Associate Professor of Tropical Medicine in the Hooper Institute for Medical Research. Since my return, ticks of the same species have been sent me from the Fort Sage Mountain district. This agrees with the findings of Bishop[8] and of Hunter and Bishop,[9] who reported in 1911 the presence of this tick in Modoc and Lassen Counties, California.

It is hoped that further investigations will be carried on next spring when the epidemiology can be more thoroughly worked out, the best methods of tick control for these district decided upon, and laboratory studies of the virus carried on.

CONCLUSIONS.

1. Rocky Mountain spotted fever has existed in California for a much longer period and to a far greater extent than has hitherto been supposed.

2. There are probably five main infected areas, one in Modoc County and four in Lassen.

3. The disease is not as severe in California as in Montana, nor as light as in Idaho.

4. The infection probably entered California through Nevada rather than Oregon.

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THE CONSIDERATION OF RECTAL AND COLONIC DISEASE IN LIFE INSURANCE EXAMINATIONS.*

By ALFRED J. ZOBEL, M. D., San Francisco.

When making a life insurance examination the careful examiner does not rely upon any of the applicant's statements regarding his present physical condition, but by inspection he notes whether the general appearance is healthy or unhealthy; by inspection, palpation, percussion and auscultation he secures accurate information concerning the heart and lungs; by examination of the reflexes, etc., he seeks evidence of disease or functional derangement of the brain and nervous system; by palpation and with the sphygmomanometer he determines the condition of the blood vessels; by an urinalysis he sees if the kidneys and bladder are free from any tendency to disease; by the thermometer he notes the untoward rise in temperature which betrays latent disease; and by the scales and the tape he finds variations from normal in weight and measurements. All this important data is obtained only by direct examination and by precise methods.

It is evidently not deemed of much importance by the life insurance companies, that their medical examiners need determine accurately the condition of the rectum and colon—not to mention the balance of the alimentary canal—for they seem willing to assume that these organs are free from disease solely from the favorable answers given by the applicant to routine printed questions asked by the examiner. That this is a fallacy, inasmuch as it paves the way to the acceptance of poor risks, and occasionally to the rejection of a good one, I shall endeavor to show in this paper.

Among the routine questions which the applicant is required to answer are: "Have you now or have you ever had, (1) chronic diarrhœa; (2) a fistula, or any disease of the rectum." The replies to these queries might perhaps be taken at their face value were it not for several adverse reasons. One is that the answer may be given honestly, but is often not worthy of consideration on account of the applicant's ignorance of what is really meant by the question. Another is that the questions are usually asked perfunctorily, and even casually, by the examiner, and are answered—almost invariably in the negative—in a like manner by the applicant.

In a fairly long experience, as an examiner, I can recall only one time when I received an affirmative reply. That was from a man 54 years of age. He freely volunteered the information that he had bleeding from his rectum, at intervals, for a number of years. He was otherwise safely insurable. A recto-sigmoidoscopic examination showed the presence of small hemorrhoids only. He was accepted by the company upon my statement that there was no malignancy, and that the hemorrhoids were not such as to demand an operation.

This remarkable absence from recto-colonic troubles in applicants for insurance is rather surprising. One would imagine that the proportion of sufferers from these ailments would be about the same among them, as among other persons seen in family or general clinical practice. The suspicion therefore arises that perhaps the main reason for the general denial is the ease with which these affections can be concealed from the examiner unless he makes an examination.

As an illustration, I recollect the case of a gentleman who was at the time under my care for an amebic colitis, yet he passed an examination and received a policy. Though previously having suffered for many years, he could be freed for long periods from all symptoms of the disease by a course of emetin injections. Still at intervals there were sharp recurrences. During a time when the disease was quiescent he passed the examination. It is probable that had more attention been paid to the questions and answers concerning the condition of his bowel and rectum, the suspicions of the examiner would have been aroused. If a rectal examination had been made, the presence of the disease would have been discovered, for at no time was the rectal mucosa without some evidence of amebic ulceration.

It cannot be said that this man was entirely at fault in the matter. While it is true that he had the disease for years, still, being a layman, he thought he was practically cured when his dysenteric symptoms yielded so readily to a few injections of a seemingly harmless drug, and particularly so as he otherwise felt and looked in the best of health. A history of former dysenteric attacks naturally was of no importance in his mind, so he could see no reason voluntarily to acquaint the examiner with all the facts about himself, especially as no very great effort was made to secure that information.

As amebiasis has been considered a disease which is met with only in the tropics, or in certain localities in our southern states, outside of these zones the average practitioner is not apt to consider the possibility of its presence. But those who are interested in recto-colonic diseases have learned that individuals who never have been in any of these localities often become infected; that amebiasis occurs more commonly than is generally suspected, and that the organism may be harbored in persons whose outward appearance shows no evidence of it.

It is common knowledge among rectal surgeons that the average individual knows little about his ano-rectal region, and that no matter what the pathological condition in his rectum may be, he generally attributes every symptom to "a slight attack of piles." Unless there is severe pain or itching, alarming bleeding, or annoying dysentery,

* Read at the 18th annual meeting of the American Proctologic Society, in Detroit, Mich., June, 1916.

he thinks it of little importance and unworthy of any attention.

Patients not rarely come under observation who look and feel in the best of health (outside of their "little attack of piles"), yet who are found victims of well-advanced malignant disease of the rectum or colon, which in all probability will soon end their days. The growth has progressed so insidiously that outside of a little bloody and mucous discharge—which seemed but a trifling matter—no other symptoms betrayed the presence of the deadly destroyer. These individuals sometimes honestly disclaim any loss of weight. They appear to be healthy otherwise, so that a life insurance examiner not learning of their "little attack of piles," would find nothing to cause him to reject the risk.

I am not in possession of any statistics on the subject, so I am unable to quote what percentage of those insuring at the age of 30 years and over, have died from cancer of the rectum, say within the first five years after their policy was issued. I presume that the total number of deaths from rectal cancer, even among all who took out insurance at any age, is indeed very small. Yet the question might be asked whether it could not have been possible for the examiner to have saved his company from some of these losses if more consideration had been given to the possibility of the applicant having some rectal disease at the time the examination was made.

As I have said before, it is quite surprising how little the average person is concerned about any ano-rectal trouble, unless the symptoms are very annoying. A little fistulous tract which causes no pain and discharges but little secretion, is never considered to amount to anything. That they ever had a marginal abscess from which the fistula had its origin often is forgotten. But it is exactly such a type of fistula which is most apt to be tubercular, and a person having it would be a far worse risk for the insurance company than one having a fistula of a florid type which was the remains of a well-marked ischiorectal abscess. I have seen a number of these cases in otherwise apparently healthy individuals, where small marginal abscesses were followed by a little fistulous tract persistently discharging a very slight amount of thin secretion. I recall that in one of these cases the tubercle bacillus had been found in the sputum. He had no active symptoms and was apparently healthy. He was passed by an examiner who, so the applicant informed me, did not ask if he had ever had any rectal trouble. Should this man die later of tuberculosis, probably no blame will be attached to the examiner, yet the company could have been saved an exceedingly bad risk had a rectal examination been made and the condition recognized.

Many competent observers, according to Tuttle, believe that fistula is frequently the primary manifestation of tuberculosis, and that when the disease limits itself to the ano-rectal area it may remain localized for long periods of time. The same author stated that in his experience nearly 50 per cent. of the fistulous that had come under his observation in the different hospitals with which he was connected have either suffered from tuberculosis at the time or afterwards; and, further, that fistula in the tuberculous is much less frequent proportionately than tubercle in the fistulous.

All of us, I apprehend, have seen severe strictures of long standing in the rectums of individuals who otherwise appear in good health. Outside of difficulty in securing a bowel movement—unless they take a cathartic which will liqufy their feces —they suffer from no other symptoms. About a year ago I saw a case in which, when the examining finger was inserted into the rectum, it was stopped by a hard fibrous stricture about an inch above the sphincters. The opening was so small and so rigid that, in order to examine above, it necessitated the use of a number 24 urethral speculum. The man was outwardly perfectly healthy and insurable, but in all probability the time was near when the stricture would so close up the bowel that nothing would be able to pass through, and it would be necessary to make an artificial anus. If this man desired to take out a life insurance policy, and had failed to mention his condition, he could have passed readily any insurance examiner who failed to make a rectal examination.

The insurance company does not require a routine rectal examination, but most likely it expects the examiner to make it if there be the slightest reason therefor. Failure to do so results from a dislike for the task, or from inability to do it properly, or, perhaps, from both. The dislike usually comes as much from laziness as from repugnance. The inability often arises from a knowledge of incompetency to interpret the findings. Teaching postgraduate students has shown me that there are many physicians whose knowledge of the recto-colonic region is almost as woefully lacking as is that of the layman. Most of them believe that hemorrhoids, if not seen protruding, can at least be felt. When told that even large piles may exist and still not be felt, nor seen, unless forced into view, it is news to them. Of course, that an applicant has hemorrhoids and nothing else is not sufficient grounds for not passing him, but if they are found it may mean that some other condition may exist which would constitute a good cause for rejection. It must not be forgotten that hemorrhoids often accompany liver, spinal cord, genito-urinary and uterine disease.

On the other hand, a suspiciously anemic appearance of an applicant might be the only reason for his rejection. If, on query and by examination, the anemia would be found due only to the constant oozing of blood from hemorrhoids, the rejection need not be absolute, but a recommendation could be made that the application be held in abeyance for some months, or until a time when the applicant regains his normal condition, which he generally begins to do soon after the removal of the hemorrhoids.

It is perhaps true that an examiner is not expected by his company to ferret out the causes of the condition for which the applicant is rejected, nor is it his duty to suggest a remedy therefor. However, it seems to me that if the cause is recognized during the course of the examination, and

it is of such a nature that some minor operative procedure or other line of treatment would restore the applicant to a safely insurable condition, then it ought to be the duty of the examiner gratuitously to offer a suggestion as to how it could be remedied, for by so doing he conserves business to life insurance which would otherwise be entirely lost to it.

In a book of instructions, written by the chief medical examiner of a certain company and issued to its medical examiners, it is urged upon the latter that they try to put the applicant at his ease by assuming a confidential attitude towards him, and gradually to draw out the desired information during the course of casual conversation, rather than by directly plying the set questions. The suggestion might be offered that at such a time the applicant could be asked about the state of his bowels. If constipation exists, especially in a person over forty years of age, it would be a wise procedure to investigate a little further. While it is true that in the very great majority of instances the cause is purely functional, once in a while a condition may be found which makes the risk a poor one. Little importance is paid to the question of chronic intestinal stasis by life insurance companies. This is hard to understand, for most of these cases are accompanied by intestinal auto-intoxication, and many of us believe with Boardman Reed that, "when we except the exanthema, malaria, syphilis, tuberculosis, and the diseases caused by traumatisms, by metallic poisons, and by a few other toxic agents or infections from without, practically all the remaining maladies which afflict us and cut short our lives are now directly or indirectly traceable to auto-intoxication."

In otherwise good risks whose blood pressure is higher than it should be, perhaps, if inquiry would be made, the cause might be found in a chronic intestinal stasis. Only recently I saw a man of 39 years who, two weeks previously, had been rejected for insurance on account of a blood pressure of 180 m.m. He became much alarmed, and consulted his physician, who, carefully examining him, could find no cause for the hypertension outside of it, perhaps, resulting from a chronic constipation which existed since boyhood, and which, although it caused at times some severe autotoxic symptoms, had been given no attention. Under strict diet no drop in blood pressure resulted. He was then referred to me for colonic irrigations. Within a month it was down to 145 m.m., and he was then accepted by a second company. Here is an instance where a good risk could have been lost entirely to the life insurance business. To my way of thinking an individual like this becomes a particularly good risk just because of his previous rejection. The scare he received leaves an indelible impression, and brings home emphatically a realization of the necessity for keeping in the best of physical condition, so that thereafter that person is far more careful about himself than one who has passed easily an examination and feels so secure about his present good health that, having no warning as did the other, he may neglect himself in the future.

In the medical examiner's report is included the question whether the bladder and urinary organs are in a healthy state and free from any tendency to disease. Probably most examiners base their answer to this upon their urinalysis. If a rectal examination were made, however, this question could be answered far more authoritatively, for then the prostate gland could be examined at the same time, while any enlargement of the testicles from tubercular or malignant disease also could be discovered.

An anus remaining patulous after withdrawal of the examining finger or instrument will suggest possible involvement of the spinal cord in a syphilitic process. As it may be one of the earliest signs of locomotor ataxia, its recognition will save the company from assuming an absolutely bad risk. The applicant perhaps may be entirely honest in his assertions that he has no knowledge of syphilitic infection, and may otherwise appear as a first-class risk.

The proportion of women to men examined for life insurance is quite small. Insurance companies do not demand an examination of their generative organs, but accept their answers to the questions whether they ever had any uterine or menstrual disorder, if the uterine functions are now regular, and if pregnancy now exists. It can be appreciated why a woman might object to a pelvic examination and would rather forego the benefits of insurance. However, in my experience, they rarely object to a rectal examination, especially when an office nurse assists. During the rectal examination the condition of the uterus and its appendages can be noted; should there be a tumor it can be felt; and pregnancy, both normal and extra-uterine, can be made out, if existant.

In conclusion, the suggestion is offered that medical examiners should lay more stress upon those questions regarding the condition of the bowel and rectum. Just as they are particular in asking whether the applicant "has or ever has had spitting or raising of blood," so should they enquire as carefully whether there is, or ever has been, a sanguinous, purulent or mucous discharge from the rectum. A history of chronic constipation or of diarrhœa also should be considered worthy of further investigation. A rectal examination, both digital and instrumental, should follow if there is need therefor, or whenever there is the slightest suspicion that by it something may be revealed.

In the business world the slogan of the day is, "efficiency." In the eyes of the public that life insurance company is the most "efficient" which, having the lowest death loss returns to its policy holders the largest dividends. That medical examiner is the most "efficient" who not only secures his company from poor risks, but also saves it business which otherwise would be lost. That the utilization of rectal examinations helps attain "efficiency," I trust has been demonstrated in this paper.

RESUMÉ OF EPIDEMIOLOGICAL INVESTIGATIONS OF EPIDEMICS OF POLIOMYELITIS WITH REFERENCE TO CONTAGIOUSNESS.*

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The present epidemic of acute anterior poliomyelitis in New York City with the possible danger of its spread to California makes it necessary that we consider the vitally important epidemiological data that has been gathered in the various outbreaks of this disease. We may preface this discussion by stating that to no one factor can the spread of the disease in a community be absolutely attributed. It is for this reason that the methods of prophylaxis and control are largely theoretical and indefinite. Nevertheless we are justified in using every means at our disposal for the protection of the public.

Contagiousness. Various investigators have proven conclusively that the disease is caused by a filterable virus, which is present in nasal and bucal secretions, and also in the intestinal contents. Quoting from Hill,[1] Minnesota, "If the infective agent escapes by way of the naso-pharynx any great actual infectiveness developed should parallel diphtheria, scarlet fever, or possible pneumonia, in its epidemiologic characteristics. If by the intestine, it should parallel more or less closely the infectiveness of typhoid fever. If poliomyelitis does not parallel any of these, it would seem uncalled-for to insist on its great contagiousness.

"Further studies must determine such points. I can personally vouch that poliomyelitis is not prevented from spread, at least so far as the cases here discussed furnish evidence, by care in controlling the discharges, for precautions so efficient as to prevent the spread of the disease from the patient to other members in the house through the discharges, were not taken as a rule."

Again Hill[1] states "that 292 families containing 1670 members, an average of 5.7 members per family, presented 292 initial cases. In 257 families no further case occurred, but in 35 families the initial case was followed by others, whether occurring on the same day or later." The secondary cases were as follows: 30 families, 1 additional, 4 families, 2 additional, and 1 family, 3 additional.

Francis,[2] reporting an epidemic in Texarkana and vicinity, states: "In one instance there were three cases in the same family. In three instances there were two, and in each of the other 139 families there was but one case."

Kelly, Gilhorn, and Manning,[3] reporting poliomyelitis in the State of Washington, state "that throughout the progress of the investigation special attention was directed to any instances of possible transmission." Out of 136 cases they report 120 families, 1 case, 8 families, 2 cases, and no families with more than 2 cases, and in only 23 cases were there any apparent transmission from person to person either by contact with an acute case, with a possible abortive case, or with contact by a third person.

In an epidemic reported in Kansas in 1909,[4] out of 58 families in which cases occurred only in 9 were there more than one case.

Dixon and Karsner[5] reported that in Pennsylvania in 773 cases only in 59 was there a distinct history of exposure to previous cases, and in only 44 out of 1076 cases did secondary cases develop in the household.

Gundrum,[6] reporting cases in California for 1910, 1911 and 1912, gives the percentage of contacts in adults as 1.3% and in children 7.2%.

Reporting poliomyelitis in Massachusetts in 1908,[7] out of 67 cases in which there was little or no attempt at isolation, there being 166 children in families affected, only four of these later acquired the disease. In addition there were 86 children among neighbors and friends, making a total of 252 children exposed. In 1909, out of 86 cases in 79 families only two cases occurred in seven of them.

Frost[8] reported that in Iowa in 1910 in 309 families in which cases occurred, these families containing 1900 members, there were 307 primary and 27 secondary cases. In Cincinnati in 1911 in 184 families, estimated to contain 920 members, there were 97 primary cases and one secondary. In Buffalo and Batavia, New York, in 1912, in families in which there were 1513 members, there were only 267 primary and 6 secondary cases.

Terriberry,[9] reporting an epidemic in Pennsylvania in 1907, stated that in 50 cases that occurred they were all in children and in every instance two or three cases appeared in the same family.

Shidler[10] reported in Nebraska in 1909 that in a threshing crew in which one of the members became ill with the disease 7 others contracted it.

The School as a Factor in Contagiousness. Frost,[8] in Mason City, Iowa, is quoted as follows: "If the disease is spread by contact in schools it was evidently very slightly contagious under the conditions existing in the schools. Assuming that one case in a school constitutes an exposure of all the children in that school, then in three schools in which cases occurred during the school term 1529 children were exposed to the infection, of whom only 7 (0.45%) subsequently developed the disease during or within two weeks subsequent to the school session. Considering only the children exposed to infection from a previous case in the same grade at school, 298 children were so exposed, of whom five later developed the disease. In Cincinnati 10 cases were distributed between nine different schools which 6053 pupils attended. There were no secondary cases. In Batavia, New York, in no instance were there two cases among the pupils of the same grade in a school. Of 26 cases 5 were attending school at the time of illness.

Langer[11] believes that schools are a source of infection and all possible measures should be taken to prevent the spread of the disease. He states that 60 cases occurred during the school year and 37 during vacation, but there were cases in children not attending school.

Wickman[12] states that in one town 16 or 18 cases originated from a single school house.

In the Monthly Bulletin of the Ohio State Board of Health,[13] in summing up the epidemics that have

* Read before the Alameda County Medical Society, July 12, 1916.

occurred in Ohio there was stated that no single school was found to be a focus of infection.

Table of Cases of Poliomyelitis in California for 1913, 1914, 1915.

Year.	Cases.	Deaths.	Case rate per 1000.	Fatality per 100.
1913.....	90	33	.033	36.67
1914.....	56	26	.020	46.43
1915.....	62	19	.022	30.65

CONCLUSIONS.

Judging from the data reported above it would seem that either the disease is only slightly contagious or that there are many persons with a natural immunity or who acquire immunity without showing symptoms of the disease.

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SIR VICTOR HORSLEY.

An Appreciation.

By ANDREW STEWART LOBINGIER, M. D., Los Angeles.

Only a few weeks ago the scientific world was startled by a dispatch from the Far East telling of the death of Sir Victor Horsley.

During the early part of the war he had been in France. Later he was called to the base at Alexandria for the Gallipoli campaign. In a letter from there a year ago he mentioned a promotion to consulting surgeon, and in another letter from Bombay, received two weeks before his death, the distressing situation in Mesopotamia with its imperative need was vividly disclosed. Because this was the most demanding service, he generously responded to it regardless of the frightful conditions to which ultimately he succumbed.

How difficult it is to write calmly of such a sacrifice, even for the country he so dearly loved. The loss to science of such a mentality as Victor Horsley's is out of all proportion to any patriotic or humane demand of any country. His titanic genius belonged to the whole world and his constructive philanthropies were of all times most needed now.

Horsley's mind, in the clarity of its scientific vision, was of the mold of Darwin, Huxley and Tyndall. He surpassed his peers in that human warmth and fellowship which made him instant kin with all that suffered, however lowly their estate.

How often have we known of the generous instinct which thought it no hardship to go at any hour of the night to the most sinister haunts of squalor in Whitechapel or Soho to help some poor suffering creature. That was why he fell fighting for his fellowman in the glare of the killing heat along the Tigris. His dauntless spirit volunteered for the difficult and discouraging tasks before which weaker minds paled in fear.

It is unthinkable that the activities of this master mind are forever closed. For more than thirty years he was held by the profession to be easily the first authority on the surgery of the brain and cord. In truth it were no exaggeration to say he created brain surgery and made of it an organized scientific entity.

We cannot here recount the long succession of brilliant researches which singularly distinguished his career. He was made a fellow of the Royal Society at twenty-three. From that time on with a rapid sequence, unexampled in our guild, his honors came in crowding numbers. During his life and at his death his own countrymen rated him as England's first, most versatile and accomplished surgeon. Kocher, who of the Continental men knew him most intimately, so classed him in enthusiastic compliment. But in those whose rare privilege it was to know him as a personal friend, there developed a bond of affection akin to worship. He was so altogether lovable in his companionship, so incomparable in his hospitalities, so charming in sport.

Amongst the many tributes to Sir Victor's memory none has seemed to me quite so appealing and so true as that from Stephen Paget,* from which I beg his permission to quote freely:

". . . Sir Victor Horsley's death neither shortens nor lengthens the war by one-half hour. That is true, but we might spend a half-hour to some advantage thinking of him and his work. Why St. Paul calls St. Luke the beloved physician I hardly know. St. Luke's medical knowledge doubtless was such as Browning in the epistle of Karshish attributes to an Arab physician of St. Luke's time. The phrase has become a kindly compliment to any doctor who is gentle and considerate to his patients, charitable in giving his thought and skill even to people who get them for nothing; honorable in the keeping of secrets and attentive to the happiness of the patient's family. There are legions and legions of beloved physicians at that rate. If that were the sum of our loss by Victor Horsley's death we should hardly need, as things are now, to think of him.

"I knew him for thirty years, thirty years of friendship unbroken and on my side unbreakable. There was nobody like him, nobody in his profession so strong in science and practice both together, with such a record of original work in physiology, pathology and surgery, with such passion for im-

* British Weekly.

provement and reform, such vivid enjoyment of life and of work.

"He was the greatest surgeon that we had, great alike in scientific research and in surgical dexterity. He was the acknowledged master and leader in that most laborious field of surgery, the operative treatment of the diseases and injuries of the brain and the spinal cord. At the very beginning of his career when he was at the Brown Institute he was the highest authority in England on the preventive treatment against rabies. Later came his admirable work on the thyroid gland which has helped to save mankind from the curse of myxedema and sporadic cretinism. I cannot draw out a list of his researches here. In the originality and width of range of his work he was greater than Lister. In the use of his imagination in science, that instinct or prophetic power which has been the making of some of the very greatest men in science, he was not far behind Pasteur. In the rush and intensity of his work, the fulness of each day's affairs, the high pressure under which he lived and died, the incessant strain which he put upon himself; in all these he was ahead of us, crowding into each day enough for two lives.

"It is a good thing to be able to remember well the look of his face, the sound of his voice and the sound of his laughter. He was singularly handsome; a very noble clear-cut, very sensitive face revealing swiftly what was in his mind. You might walk through London from end to end without seeing a face with so much distinction in it. . .

"The wonder of his life is that he was not content even with all his science and with all his practice. He added to them; how he found time and strength for it I hardly know; to all his research work, hospital work and private practice, he added the passionate zeal of a reformer, a man sworn to fight hard in politics, both general and medical politics. . . To him the questions of reform in medical politics and the burning questions of national politics, the refusal to give votes to women, the permitted wastage of national health and efficiency by drink, the gulf between class and class; these were not politics, they were mankind; he was serving mankind just as well by standing for Parliament as by making experiments in a laboratory or operating in a hospital. I could never feel like that about him, but I know that he would have done splendid work in Parliament. . . He was near sixty when he died, but we had only just begun to think of him as no longer a young man, so keen was he, so insatiable to work. The innumerable honors which he bore so lightly—I never heard him speak of any of them—and the amazing output of his original work in science, the improvements which he had introduced into surgical practice, the multitude of lives which he had saved by his skill or had taught other men to save, and his passionate advocacy of causes which most doctors find no time either to defend or oppose—all these things were before the war.

"He had served in the South African war, he must serve again; we heard of him in authority now in Egypt, now in India, then he went to Mesopotamia and there he died. It seems right that he should have died not of any wound but of the heat and light of the sun itself; it goes well with his ardent life and with the light that his work brought to the science and art of surgery. . .

"I say again, there was nobody like him. But he is gone, whom so many of us almost worshiped and so many of us envied; the man indomitable, indefatigable, generous, impulsive, who made us lesser men look like a tame and colorless lot, and went at full speed from his boyhood to his death for his country, as if all his life were nothing but fire and light for mankind."

FEDERAL SUPERVISION AND LICENSURE OF CLINICAL LABORATORIES UNDER THE POSTAL REGULATIONS —A PUBLIC HEALTH MEASURE.

By FRED I. LACKENBACH, Associate Fellow, American Medical Association, San Francisco.

The breaking of some culture tubes while in the mails, thereby exposing postal clerks to infection, is said to be responsible for recent activity in enforcing the laws governing the admission to the mails of specimens of diseased tissues, cultures of microorganisms, etc. These regulations, primarily for the protection of those handling the mails and to guard against the possible transmission of disease through contamination of mail matter, exercise in substance a supervisory control over all laboratories and individuals who may receive such specimens through the mails. Through the broad application of these regulations and the exercise of good judgment on the part of the Postmaster General and local Postmasters there is a strong probability that there will be accomplished a regulation of clinical laboratories which has been impossible through any other means. That such regulation is imperatively necessary is obvious to all who are interested in medical and public health problems. The findings of a clinical laboratory may have an exceedingly important bearing upon the health and welfare of a community, as might be the detection of a typhoid polluted water or milk supply, or the control of a diphtheria epidemic. And when it comes to the examination of blood specimens for the detection of syphilis, for example, and the possible far-reaching effects upon the individual, his dependents and the community at large, the laboratory investigator assumes a responsibility that is certainly a matter of governmental concern and solicitude. It is to be hoped that these regulations will weed out the parasitical commercialized laboratories which prey alike upon the public and the unsuspecting physician, and the postoffice authorities should be given every assistance possible by medical organizations, physicians and others, to enable the proper licensing of the deserving and the elimination of the fraudulent laboratories.

A communication from the office of the Solicitor of the Post Office Department at Washington states that "permits to receive by mail such specimens are issued to laboratories only and not to individuals." Those who are conducting laboratories are requested to advise the office of the

Solicitor, Post Office Department, Washington, D. C., through the postmaster of the city in which the laboratory is situated. The name of the laboratory must be stated and the name of the director to which such specimens are to be addressed. It is required that a certificate be furnished from the physician who is acting as director of said laboratory, stating that it is properly equipped to care for such specimens when received. It is necessary to state the location of the laboratory, street and number, and state whether it is located in an office building or otherwise.

Section 3, it will be observed, prohibits the delivery of specimens of diseased tissues to any laboratory which has not received from the Postmaster General a permit certifying that the institution is entitled to receive such specimens.

Copy of Section 473, Postal Laws and Regulations, follows:

COPY OF SECTION 473, POSTAL LAWS AND REGULATIONS

Specimens of diseased tissues may be admitted to the mail for transmission to United States, state, municipal, or other laboratories in possession of permits referred to in paragraph 3 of this section, only when inclosed in mailing cases constructed in accordance with this regulation, provided that bacteriologic or pathologic specimens of plague and cholera shall under no circumstances be admitted to the mails.

2. Liquid cultures, or cultures of microorganisms in media that are fluid at the ordinary temperature (below 45° C. or 113° F.), are unmailable. Such specimens may be sent in media that remain solid at ordinary temperature.

3. No package containing diseased tissue shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the Postmaster General, certifying that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens.

4. (a) Specimens of tubercular sputum (whether disinfected with carbolic acid or not disinfected) shall be transmitted in a solid glass vial with a mouth not less than 1 inch in diameter and capacity of not more than 2 ounces, closed by a cork stopper or a metallic screw top protected by a rubber or felt washer. Specimens of diphtheria, typhoid, or other infectious or communicable diseases or diseased tissues, shall be placed in a test tube made of tough glass, not over three-fourths of an inch in diameter and not over 7½ inches in length, closed with a stopper of rubber or cotton and sealed with paraffin or covered with a tightly fitting rubber cap.

(b) The glass vial or test tube shall then be placed in a cylindrical tin box, with soldered joints, closed by a metal screw cover with a rubber or felt washer. The vial or test tube in this tin box shall be completely and evenly surrounded by absorbent cotton closely packed.

(c) The tin box with its contents must then be inclosed in a closely fitting metal, wooden, or papier-mache block or tube, at least three-sixteenths of an inch thick in its thinnest part, of sufficient strength to resist rough handling and support the weight of the mails piled in bags. This last tube shall be tightly closed with a screw-top cover with sufficient threads to require at least one and one-half full turns before it will come off, and fitted with a felt or rubber washer.

5. Specimens of blood dried on glass microscopic slides for the diagnosis of malaria or typhoid fever by the Widal test may be sent in any strong mailing case which is not liable to breakage or loss of the specimen in transit.

6. Upon the outside of every package of diseased tissues admitted to the mails shall be written or printed the words, "Specimen for bacteriological examination. This package to be pouched with letter mail."

THE REMOVAL OF FOREIGN BODIES FROM THE ESOPHAGUS AND RESPIRATORY TRACT.*

By H. B. GRAHAM, M. D., San Francisco,
Assistant Clinical Professor of Surgery, Stanford Clinic Medical School.

The following was not received in time to appear in the September issue:

Discussion.

E. C. Sewall, M. D.: I wish to call attention to an unusual symptom that was present in a case seen by me recently, viz.: difficulty in breathing from a foreign body not in the air passage but in the oesophagus.

A Japanese child of four years was brought to Lane Hospital. Child was extremely dyspneic, so much so that the mother would not allow me out of the ward for a moment for fear the child would stop breathing. An X-ray was taken, but without waiting for the development of the plates, I examined the larynx and trachea by means of suspension laryngoscopy without anaesthesia. I was much surprised to find no foreign body, and the breathing now having become normal the child was taken again to the X-ray. The two plates both showed the foreign body, a small metal dog. The first pictured it at the level of the thyroid and the second about 10 cm. lower. Watched under the fluoroscope the foreign body was found to be moving along nicely and it eventually passed the following morning.

Brüings mentions the possibility of embarrassment of breathing from a foreign body located in the oesophagus.

P. A. Jordan, M. D.: I took my course in bronchoscopy with Dr. Graham in Vienna. I bought the outfit and brought it home and have never used it on any one since. I feel incompetent to do the work well. I loaned my instrument to one of my confreres to use in a case, and have always been thankful that he used it instead of myself. The case resulted in a triumvirate of physicians paying $17,000 damages for the unskilful use of the instrument. I strongly recommend that all foreign body cases needing the bronchoscope be sent to a specialist well skilled in this branch of work.

G. W. Walker, M. D.: As Dr. Graham says, there is too little of this work to be done for many of us to be prepared to do it; also it requires a mechanic to do the work as well as an oesophageoscopist. It seems to me that in cases like that nut which Dr. Graham removed, that a suction apparatus would take it out nicely if fitted with a soft rubber tip with thin beveled end to attach itself to the foreign body's side.

Closing remarks, H. B. Graham, M. D.: As far as the suction apparatus is concerned, I had the same idea the doctor has, but it was unsuccessful. There is usually quite a little oedema of the bron-

chus in front of the foreign body, especially if it has been in more than twenty-four hours.

Regarding the case in which the foreign body had been in twenty years, I will say that there is one other case on record in which the foreign body was in longer than that. Dr. Jackson had a case of a tack in the lung which had been there for twenty-six years.

I cannot say too much about the care that must be exercised in using the bronchoscope on account of accidents which happen. Perforation of the bronchi and traumatism to the lung have occurred. There has also been severe hemorrhage following the unskilful use of the bronchoscope.

SOCIETY REPORTS

ALAMEDA COUNTY.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, August 15, 1916.

The meeting was called to order by the president and the minutes of the two previous meetings were read and approved.

The following program was then presented:

I. The Health Service of the University of California, Dr. Robert T. Legge, U. C.

II. Health Insurance and the Medical Profession, Dr. I. M. Rubinow, New York.

Dr. Maher, who was a classmate of Dr. J. B. Murphy, gave a number of interesting reminiscences of his acquaintance with the late surgeon.

There being no further business the meeting adjourned.

E. E. BRINCKERHOFF, Secretary.

PACIFIC ASSOCIATION OF RAILWAY SURGEONS.

The Fourteenth Annual Meeting was held at the Palace Hotel, San Francisco, August 25th and 26th, with luncheons at the Transportation Club. An address was made by the President, Dr. H. W. Fenner, Tucson, Arizona.

Papers.

Mr. D. R. Sessions, Claims Attorney, Southern Pacific Co.—"Relation of Hospital Department to Law Department."

Dr. W. C. Hassler—"What the Physicians and Surgeons Should Do to Prevent the Spread of Poliomyelitis."

Both by invitation.

Dr. T. W. Huntington—"The Treatment of Carbuncle."

Dr. W. T. Cummins—"Recent Research Work in Medicine and Surgery."

Dr. Alvin Powell—"First Aid in the Railway Shop."

Dr. E. G. Cambert—"Roentgenology."

Officers elected for ensuing year: Dr. W. T. Cummins, San Francisco, president; Dr. J. A. Ketcherside, Yuma, Ariz., 1st vice-president; Dr. Alvin Powell, Oakland, Cal., 2nd vice-president; Dr. E. M. Keys, Alameda, Cal., treasurer; Dr. L. P. Howe, San Francisco, secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of August, 1916, the following meetings were held:

Tuesday, August 1st—Section on Medicine.

1. Infectious Endocarditis. George E. Ebright.
2. Common Errors in Diagnosis of Syphilis of Skin and Mucous Membranes. George D. Culver.

Tuesday, August 8th—General Meeting.

St. Francis Hospital Clinical Evening.

1. Intestinal Crises Simulating Chronic Appendix Disease. Diagnosed by X-ray findings. M. P. Burnham and L. B. Crow.
2. Report of Six Complicated Cases of Infective Sinus Thrombosis. C. F. Welty.
3. Pregnancy Complicated by Fracture of the Pelvic Bones. C. P. Thompson.
4. Syphilis of the Stomach. W. B. Coffey.
5. Lantern Slides of X-rays of Fractured Femoral Neck Into Which a Nail Had Been Driven. J. T. Watkins.

Tuesday, August 15th.

Experiences in Industrial Accident Surgery.

1. Fractures of Carpal Bones. A. L. Fisher.
2. Discussion of Principles and Problems of Industrial Accident Work. M. R. Gibbons.
3. Disability From Injury to the Feet. C. J. McChesney.
4. Fractures of the Spine. H. C. Naffziger.
5. Subdeltoid Bursitis. Saxton Pope.
6. Obturator Dislocation. J. T. Watkins.

Tuesday, August 22d.

Section on Eye, Ear, Nose and Throat.

1. Presentation of Cases:
   A. Case of Exophthalmos; Lues or Sarcoma? K. Pischel.
   B. Case of Acute Tubercular Labyrinthitis; Unruptured Drum. H. Horn.
2. X-rays of Mastoids. H. B. Graham.
3. Remarks on Shortened Bone Conduction. H. B. Graham.
4. Paralysis of the Fifth Nerve. R. O'Connor.
5. A. Remarks on Ear, Nose and Throat Work in the East. H. Horn.
   B. Remarks on Eye Work in the East. A. S. Green.

Tuesday, August 29th.—Section on Urology.

1. Syphilophobia. V. G. Vecki.
2. Modern Treatment of Bladder Tumors. M. Krotoszyner.
3. Lantern Views of Specimens of Enlarged Prostates After Suprapubic Prostatectomy, and Some Conditions Associated With Enlargement of Prostate. M. Molony.
4. Demonstration of Electrical Apparatus. A. E. Cerf.

STANFORD CLINICAL SOCIETY.

The first meeting of the Stanford Clinical Society was held September 11th in the Clinical Building of the Stanford University Medical School, and the following program was presented:

1. Toxic Effects of Urea on Normal Individuals. Dr. A. W. Hewlett, Professor of Medicine.
2. Muscle Training in Infantile Paralysis. Dr. E. G. Martin, Professor of Physiology.

The election of officers was held, with the result that Dr. A. W. Hewlett was made president, and Dr. L. Eloesser, secretary.

ST. LUKE'S HOSPITAL CLINICAL CLUB.

The Profession is cordially invited to attend the daily Clinical Meetings which are held at St. Luke's Hospital from 12:00 to 1:00 p. m., and on Friday from 4:30 to 6:00 p. m. At these meetings the instructive clinical material assembled by the St. Luke's Hospital Clinical Club is presented for discussion. Special consideration is given to differential diagnoses and recommendations for treatment.

The X-ray, pathological and surgical departments are open for inspection to those interested in such branches of medicine.

Physicians interested in special problems coming within the scope of the branches represented by the "Diagnostic Section," will be shown every courtesy by the various departments.

The members extend to visitors a welcome to all surgical operations performed by surgeons of the Clinical Club.

E. V. KNAPP, M. D.,
R. B. TUPPER, M. D.,
J. M. MACDONALD, M. D., Chairman,
Executive Committee.

BOOK REVIEWS

Obstetrics—Normal and Operative. By George Peaslee Shears, B. S., M. D. 419 illustrations, 745 pages. Philadelphia and London: Lippincott, 1916. Price, $6.00.

The practical deductions of a man of experience and the teacher's graphic method of demonstration constitute the chief value of this new work on obstetrics. The tendency to concentrate upon the art of obstetrics and depreciate the practical value of the science seems to us a mistake in this day of effort to raise obstetrical standards within the medical profession. However, there is much help for the general practitioner, for whom, rather than the student, it was written. E. K.

Rules for Recovery From Pulmonary Tuberculosis. A Layman's Handbook on Treatment. By Lawrason Brown, M. D., of Saranac Lake, N. Y. Second edition, revised and enlarged. 12mo, 184 pages. Cloth, $1.25 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

In this volume Lawrason Brown has given us in readable form a concise résumé of our present knowledge of tuberculosis.

It is written especially for the patient and its possession will answer many questions and solve many problems that arise in the home care of the afflicted.

The physician also will do well to read this book. It is just off the press and its statements are up-to-date; it has for its author one of the best-known and most eminent physicians and its utterances are authoritative. L. S. M.

Consumption, Its Prevention and Cure Without Medicine, with chapters on sanitation and prevention of other diseases. By Chas. H. Stanley Davis, M. D., Ph.D. Second Edition Enlarged. New York: Treat & Co., 1908. Price, $1.00.

This volume cannot be considered a serious addition to the medical literature of tuberculosis.

It is full of dry statistics of a former medical generation. Some of its recommendations have long been looked upon as heresies by modern practitioners, and, saddest of all, the grammatical errors and faults of style are numerous and would shame any schoolboy who might be convicted of their perpetration.

The author and publisher evidently agree that time need not be wasted in revising and correcting a work written for non-medical readers. The contrary is true. At no time should the medical writer be so careful in his utterances, so accurate in his information as when he addresses himself to the public, who, untrained in medical matters, can not be trusted to select for themselves the good and ignore the bad. L. S. M.

Skin Cancer. By Henry H. Hazen. Published by C. V. Mosby Co., St. Louis, 1916.

The subject of cancer has for long been an interesting one, but just now it is more absorbing than ever before. This and the fact that Hazen has handled skin cancer so well should make his little book a very popular one. Special attention has been given to etiology in so far as its indefinite relationship to this particular disease is known. And to get an idea of how delightfully he has written the pathology one would have to read only the few pages on the pathology of basal-celled carcinomata and see the illustrations. The whole subject is beautifully illustrated throughout.

The author gives clearly his own experience and quotes largely from the experience of Bloodgood, with whom he has worked a great deal. Because of the interrelationship of surgery and dermatology in the therapeutics of cancer, the book should be as valuable to the surgeon as to the dermatologist, for this part of the subject is well handled. The volume is a small one and it could well have been published in the form of a pocket edition, which I am inclined to believe would render it far more popular through convenience in handling and in carrying.

If more subjects were treated as commendably and in the same manner, then published in pocket editions, it would be of great assistance to the busy practitioner. G. D. C.

The Memoirs of a Physician. Translated from the Russian of Vikenty Veressayev, by Simeon Linden, with an introduction and notes by Henry Pleasants, Jr., M. D. N. Y.: Knopf, 1916.

There are few attractions which add more to the desirability of a production than the distance of its source. Whatever the intrinsic merits may be there is the never-failing spell of enchantment that attaches itself to the word "imported." "Translated from the Russian" strikes the eye forcibly and promises something profound, erudite, mysterious—the opening of hitherto untrodden avenues of thought and imagination.

Thus fortified with expectation this recent product of the land of despotism, caviar, Tolstoi and Turgenieff was approached by the reviewer. On finally closing the volume there was much to be grateful for in that it was written by a Russian. It thus may be kindly accepted. Had it been written by an American, it might have been thought mediocre, unconvincing and too temperamental.

In these personal memoirs of the author he tells us of his early medical training, his unfitness for practice, not having had hospital experience, his diffidence and mistakes and how later after a hospital course with increasing ability and self-confidence his activities give him a broad, ripened view of medical practice. Chapters are given to the social and economic aspects of medicine, its limitations as a science and much space to the personal relations of doctor and patient.

The whole tone of the volume is rather sombre-hued and cast in an atmosphere of pessimism, well reflected in the translation. The book will arouse and sustain the interest and sympathy of any physician who may desire to read it.

M. S.

Diseases of the Skin. By Richard L. Sutton, M. D. 693 illustrations, and 8 colored plates. Published by C. V. Mosby, St. Louis, 1916.

Of what use is the multiplication of books on diseases of the skin when there are already so many on the market? There are many reasons why books on this particular subject are not superfluous, and there are additional ones in favor of the present treatise.

Diseases of the skin are much neglected by the man in general medicine and in other specialties, and an attractive presentation of this group of maladies should be of great benefit. Furthermore, this particular work is richly illustrated, which in a department of medicine that especially lends itself to pictorial illustration, is a valuable feature. In addition to these excellencies it takes up subjects that in other works have been either omitted or neglected. For instance, there is a short article on sporotrichosis with admirable photographs.

There are two diseases pertaining to the surgery of the hands, and especially of the fingers, that rarely receive any mention, and yet may be of great importance—synovial lesions of the skin and granuloma pyogenicum.

The synovial lesions of the skin are wart-like cystic affairs that occur on the back of the hands

and fingers. They are unfortunately named as they have nothing to do with the tendon sheaths or synovial sacks. On being punctured a thick syrupy fluid like synovia escapes, and the little tumor collapses only to refill. This inveterate tendency to recur under inefficient treatment may cause it to be considered malignant, and may give rise to a deal of unnecessary worry.

Granuloma pyogenicum also acts and looks strikingly like a malignant tumor; its tendency to recur and its tendency to bleed are both causes of great anxiety, at least to the patient. When it occurs on the lower lip, a favorite situation, it undoubtedly is frequently mistaken for an epithelioma. Admirable illustrations are given of both these affections.

Among other diseases not mentioned in treatises on dermatology, there is a chapter on the lesions of the skin and mucous membranes of "foot and mouth disease" with three beautifully colored plates.

To recur to the subject of photographs, the racial feature in Sutton's work is something not commonly met with. There are photographs of cutaneous troubles in Indians, negroes and caucasians, furnishing an interesting study in themselves. D. W. M.

Diseases of the Eye. By George E. deSchweinitz, M. D., LL.D., Professor of Ophthalmology in the University of Pennsylvania. Eighth edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $6.00 net; half morocco, $7.50 net.

In the latest edition of de Schweinitz's "Diseases of the Eye" the reviewer is pleased to find a textbook which, while omitting none of the time-honored and proven methods of examination and giving fully an accurate and concise description of all the well-recognized eye diseases, brings out in addition short but clear accounts of a variety of ocular diseases and of new operative proceedings, not as yet to be found in other text books of ophthalmology. Of especial interest in this new material may be mentioned the accounts of anyphylactic keratitis, preliminary capsulotomy, iridotasis, Knapp's methods of cataract extraction in the capsule and West's operation for the resection of the nasal duct. The revised chapter on iritis, embodying the author's experience with auto-toxemic iritis and iritis secondary to focal infections, should be of interest not only to the ophthalmologist but to the internist and should be read by the latter especially. The roentgenologist will find in the section "Localization of Foreign Bodies in the Eyeball with the Rontgen Rays" by William Sweet, a full account, with excellent localization charts of this difficult and often ungrateful part of his work. The portion devoted to general optical principles, methods of examination and the methods of refraction is particularly pleasing in its clarity and in the systematic development of the material. The chapter on refraction especially should be read by the "rule of thumb" refractionist; unless too far gone it will abuse him of the conception of the eye as a rigid globe attached to unyielding cables and teach him a physiological consideration in refraction. Therapeutics is fully discussed. The usual absence of being told "what to do" is conspicuous by its presence. The pathological anatomy is discussed somewhat briefly but still clearly, in connection with each disease. One would like to see more of this but the confines of a teaching and practical text-book undoubtedly impose a limit. The inciting organisms of various lesions are discussed briefly in connection with each disease. Trachoma and sympathetic ophthalmia are fully and well presented. The reviewer feels that a short chapter on bacteria causing ocular lesions with a consideration of their cultural and staining characteristics and a brief discussion of their relation to operative proceedings, would be gratefully received. deSchweinitz's "Diseases of the Eye" has for years been the standard text-book of the American student; the new edition will undoubtedly keep it so. It is clear, precise, systematic and covers the field as fully as such a field can be compressed into a usable text-book.

H. B.

The Medical Clinics of Chicago. Vol. 2, Number 1. July, 1916. Octavo of 220 pages, with 41 illustrations. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price per year: Paper, $8.00; cloth, $12.00.

Contents.

Clinic of Dr. Arthur R. Edwards:
- The use of digitalis.

Clinic of Dr. Frederick Tice:
- Some cases of diabetes mellitus with complications.
- Diabetes Mellitus with Acidosis.

Clinic of Dr. Solomon Strouse:
- Diabetes and surgery; diabetes and pregnancy.
- The treatment of diabetes acidosis.

Clinic of Dr. Milton Portis:
- Vomiting.

Clinic of Dr. Ralph C. Hamill:
- Presentation of a case of general paresis.
- Manic-depressive insanity or recurrent melancholia on a basis of dysthyroidism.
- Peripheral neuritis on a specific basis.
- A typical case of Basedow's disease.

Clinic of Dr. Chas. L. Mix:
- Staphylococcic osteomyelitis developing as a result of infection from teeth.
- Presentation of a case of paraphasia.

Clinic of Dr. Isaac M. Abt:
- Feeding the normal baby. Breast feeding.

Clinic of Dr. Chas. S. Williamson:
- A mediastinal tumor—probably Hodgkin's disease.
- Multiple tubercular serositis.
- A case of bronchiectasis (unilateral).
- Recurrent thrombo-ulcerative endocarditis.
- A case of intermittent claudication.
- A case of cerebrospinal meningitis.

Contribution by Truman W. Brophy:
- Oral Infections.

Clinic of Dr. James T. Case:
- The principles of fluoroscopy of the stomach.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume V, Number 4 (August, 1916). Octavo of 222 pages, 50 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bi-Monthly. Price per year: Paper, $8.00; cloth, $12.00.

Contents.

Melanotic neoplasm in digastric muscle—ablation.

Mixed tumor of parotid salivary glands—ablation.

Bony ankylosis of temporomandibular joint—arthroplasty (3 cases).

Retraction of eyeball, fascia-fat plastic on orbital contents.

Trifacial neuralgia—avulsion of sensory root of Gasserian ganglion.

Luxation of cervical spine at atlo-axoid joint—decompression.

Traumatic recurrent subluxation of fourth lumbar vertebra—Albee bone graft spinal transplant.

Tuberculosis of spine—Albee bone-graft spinal transplant; decompression.

Fracture of humerus (anatomic neck) with loss of head—resection and arthroplasty.

Fracture of humerus (condyles) and radius (head)—resection—arthroplasty.

Ancient T-fracture of humerus—resection of elbow joint—arthroplasty.

Postscarlatinal arthritis of elbow—aspiration and formalin injection.

Tuberculosis of elbow—progress under tuberculin therapy with eventual cure.

Primary synovial tuberculosis of elbow-joint—resection—arthroplasty.

Cicatricial fixation of ulnar nerve from ancient cubitis valgus—release and transference of new site.

Ancient ununited fracture of radius—implantation of bone-graft-splint.

Ancient luxation of metacarpophalangeal joint—operative reduction.

Occult carcinoma of breast with metastases to cervical and mediastinal lymph-nodes, giving pressure signs—non-operative treatment.

Sarcoma of sternum—resection.

Series of 16 illustrations showing certain phases of gall-bladder surgery.

Biliary calculus impacted at ampulla of Vater; contracted gall-bladder—transduodenal choledochotomy; cholecystotomy.

Subperitoneal streptococcic cellulitis—talk on streptococcic infections.

Non-fusion of uterine segments of Mullerian ducts—hysteropexy of aplasic, unfused uterine strands.

Ureteral calculus—lumbar pyelolithotomy.

Sarcoma of ilium.

Ancient fracture of rim of acetabulum with displacement of head of femur.

Luxation of hip-joint.

Ancient bony ankylosis of hip-joint with excessive flexion-deformity.

Extensive trochanteric bursitis.

Bone-infections metastatic to furuncles.

Traumatic intromuscular ossification.

Addendum in re villous synovitis.

Diseases of the Digestive Tract and Their Treatment. By A. Everett Austin, A. M., M. D. 552 pages, with 85 illustrations, including ten color plates. C. V. Mosby Company, St. Louis, 1916. Price $5.50.

This book sets out with two distinct advantages: it is written by a man who has had a scientific training, who has taught physiological chemistry; and secondly, it is new, it is not a revision in which the author must try to fit new facts into a wornout classification. We were not disappointed in our hope that the author's training would keep him from making so many of those loose statements that mar the average textbook. Those who have followed the record of the A. M. A.-Patten trial must have been impressed with at least one of the dangers of the textbook written (apparently) by a library assistant and signed by the professor.

Another result of the author's training is the inclusion of a good chapter on the physiology of digestion. One of the best features of the book is that so much of the subject matter has been treated in one place—Part 1.—under the headings of General Diagnosis, Examination of the Patient, Dietetics and Treatment. It saves much repetition in the text of the next two parts, which deal with special diseases of stomach and intestine.

The book is well illustrated with reproductions of X-ray plates taken by Dr. George. Unfortunately, they are all reversed, which makes them rather trying to one who has become used to seeing the stomach on the right—with the patient facing him.

There are some points upon which we believe the author might be a little more up-to-date. For instance, (p. 38) when he says that it has not yet been determined whether there is antiperistalsis in the human colon, he should mention Case's article in which he says he has seen it definitely, so that the reader can refer to it personally and decide for himself whether he will believe the evidence or not. He quotes Stiller's objection (p. 20) that the bismuth stretches the stomach out of shape and causes the ptosis, as if it were worthy of serious consideration, and not an interesting chapter in the history of medical "Stand-pat-ism." His statement (p. 49) that there is very little evidence that diseases of the digestive tract are in any way transmitted from parent to child is contradicted by the daily experience of every physician.

Although considerable space has been given to a discredited test like Salomon's, nothing is said about the newer methods of gastric analysis in which samples are taken repeatedly at short intervals. On the whole, however, the author is to be congratulated on having discarded some of the tests that encumber the average textbook. His pictures of stools are unfortunately modeled on Schmidt's work, and some of them do not resemble anything we have seen on land or sea.

We believe the space given to massage is largely wasted. A doctor can be better employed than in rubbing his patient's abdomen at so much per afternoon. For the same reason we object to the space given to electrical treatment. It is refreshing and unusual for the author to admit that "no actual scientific evidence exists for its action on the digestive tract." The man who, when he cannot make a diagnosis, gives the patient electricity for as long as he can hang on to him, is dulling his conscience and losing his soul.

He apparently thinks "nutrient" enemas are nutrient, as he does not mention much evidence recently obtained to the contrary. On page 311 he speaks of starving the patient so that his stomach "may be kept in a state of absolute rest." The author does not seem to have paid much attention to the now extensive literature on hunger contractions.

As usual, there are inconsistencies. In the article on hyperacidity he does well to quote the experimental work which has shown the futility of trying to affect the character of the gastric secretion by diet. Yet on page 386, he says "In arranging a diet, attention must be paid to the character of the gastric secretion"; and on page 331 he gives diet lists for dilatation with anacidity and dilatation with hyperacidity. Incidentally, we doubt if there is such a thing as dilatation and hyperacidity without ulcer or other organic disease.

His ideas on corsets are rather old-fashioned. The modern physician does not rail at them; he prescribes them and sees to it that they are helpful and properly fitted.

We believe he should add on p. 420 that Hormonal is exceedingly dangerous, irrational and now practically abandoned. We assume that the doctor has a wonderful digestion himself or he would not prescribe (p. 386) finnan haddie, salt mackerel, sardines, etc., for patients with gastric atony. On the whole, his diets are commendable and it is a delight to find a man who realizes the necessity for excluding cellulose.

He has freed himself to a considerable extent from the domination of a classification of diseases, but the idea crops out here and there. For instance, overfeeding is advocated for gastric atony but not mentioned for enteroptosis. Such distinctions are ridiculous. It seems surprising that a physiologist and practical internist should apologize as he does (p. 290) for saying a few words on diseases of the gall-bladder. It is a serious omission that they have been given barely half a page.

There are a number of statements made here and there which should be backed up by authorities. A few references have been given, but we believe more would add greatly to the value of the book.

So much for criticism. There are a number of features which deserve special commendation. One of the best of these is the series of short

articles on the different symptoms such as heartburn, nausea, regurgitation, etc; what do they mean and how do they originate? This chapter deserves rereading. The book, as a whole, is well written, and the author can say as the ancient Egyptians were supposed to do on Judgment Day, "I have not multiplied words without meaning." Particularly praiseworthy is the sanity exhibited in so many places. He has not gone wild over "intestinal stasis"; and does not operate on every man with a dropped colon. He says constipation persists even after the bowel has been stitched up as high as anyone can desire. The article on constipation, beginning on page 406, should be read widely as an antidote to what Progressive Medicine calls "the pseudo-scientific vaporings of Lane and his school."

In many ways the book commends itself to us as one of the sanest and most useful on the subject of gastro-intestinal diseases. W. C. A.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Standard Radium Solution for Drinking (1 microgram Ra).—Each bottle (60 Cc.) contains radium chloride equivalent to 1 Microgram Ra. and 1.3 mg. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., July 1, 1916, p. 35).

Radium Bromide, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Carbonate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Chloride, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Sulphate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (Jour. A. M. A., July 8, 1916, p. 121).

Vitalait Starter.—A culture in vials of the Bacillus bulgaricus and the Streptococcus acidi lactici in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (Jour. A. M. A., July 15, 1916, p. 203).

Galactenzyme Tablets.—Tablets containing a practically pure culture of Bacillus bulgaricus. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

Galactenzyme Bouillon.—A pure culture in vials of Bacillus bulgaricus, each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

Ampules Mercuric Salicylate-Squibb, 0.065.—Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 1 per cent.—Each ampule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate-Squibb, 0.13 Gm.—Each ampule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate-Squibb, 0.05 Gm.—Each ampule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York (Jour. A. M. A., Aug. 5, 1916, p. 437).

Arbutin-Abbott.—A non-proprietary brand complying with the standards for Arbutin, N. N. R. The Abbott Laboratories, Chicago (Jour. A. M. A., Aug. 19, 1916, p. 586).

Ampules Mercury Iodide (Red), 1 per cent. in Oil-Squibb.—Each ampule contains 1 Cc. of a solution of red mercuric iodide and anesthesin, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb & Sons, New York (Jour. A. M. A., Aug. 19, 1916, p. 586).

Fibrin Ferments and Thromboplastic Substances (Kephalin).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

Brain Lipoid.—Impure Kephalin.—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges

or pledgets, or it may be used in the form of an emulsion with sodium chloride solution.

Solution Brain Extract.—Solution Thromboplastin-Hess.—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

Items of Interest.

The Pharmacopoeia Revision.—As usual the Pharmacopoeia about to be issued will be antiquated when it comes out. Some of the drugs in it will have become more or less obsolete, while many new ones which have proven of value will not be there. Since all the publications of the A. M. A. are issued promptly and in excellent style, and are complete, correct and up-to-date, it is suggested that the U. S. P. should be taken over by the A. M. A., and be henceforth published by it. It may be extreme to say that the world would be almost as happy without a Pharmacopoeia, but at least we could get along very nicely with a Pharmacopoeia about one-half the size of the present one. A good deal of the matter it contains is quite superfluous and its deletion would prove distinctly advantageous to (1) the book, (2) to the medical profession, (3) to the pharmaceutical profession and (4), last but not least, to the students of medicine and pharmacy (Critic and Guide, July, 1916, p. 239).

Cocaine Substitutes.—Treasury Decision 2194 places "alpha and beta eucaine or any of their salts or any synthetic substitute for them" under the provisions of the so-called Harrison Narcotic Law. To this ruling, the Farbwerke-Hoechst Company, the manufacturers of novocain, a synthetic substitute for cocain, took exception and, by agreement, a test case was argued before the United States District Court of New York. It is reported that the court took the case from the jury and ordered a verdict for the Farbwerke-Hoechst Company on technical grounds (Jour. A. M. A., July 15, 1916, p. 208).

Novocain.—Novocain was introduced about twelve years ago with the claim that it was from one-sixth to one-tenth as toxic as cocain. Hatcher and Eggleston have recently shown that the toxicity of cocain varies widely with different individuals and with the rate of its absorption into the circulation, and that novocain shows far greater variations. The authors are of the opinion that novocain has a distinct field of usefulness, but call attention to the fact that death has followed the clinical use of small doses and that toxic symptoms have been reported by numerous observers (Jour. A. M. A., Aug. 26, 1916, p. 685).

Phenol Antidotes.—Various substances, fixed oils, glycerin, diluted sulphuric acid, the soluble sulphates of the alkalies and alkali earths, have been recommended as antidotes or prophylactics of phenol poisoning. M. I. Wilbert discusses the value, or lack of value, of the various reagents proposed as antidotes to phenol poisoning. He points out that glycerin will not prevent the production of gangrene or the absorption of phenol. Wilbert points out that the other substances mentioned have been found inefficient as detoxicants for phenol, and in many instances distinctly harmful. He further notes that, while the value of alcohol as an antidote for phenol poisoning has been scientifically disproved, yet even as late as 1915, the fallacy that ethyl alcohol is an antidote to phenol has been embodied in state laws designed to restrict the sale of phenol. Recent investigation, carried out in the Hygienic Laboratory, shows that in the presence of water neither alcohol nor glycerin has any detoxicating effect on phenol (Jour. A. M. A., July 15, 1916, p. 233).

Sodium Sulphate as an Antidote to Phenol Poisoning.—Sodium sulphate in strong solution is one of the best known antidotes for phenal poisoning. At one time it was erroneously thought that the antidotal effect was due to the formation of sodium phenolsulphonate. It has been suggested that whatever action sodium sulphate has as an antidote for phenol may be due to some hindrance to absorption, and possibly also to added purgation (Jour. A. M. A., Aug. 12, 1916, p. 535).

Poisoning from Lead Paints.—The reports of the British departmental committee, appointed to investigate the dangers of the use of lead compounds in the painting of buildings, shows the principal source of poisoning to be dust, produced during the mixing of dry, white lead with oil and in the dry rubbing down process. While the first danger is done away with by the use of ready mixed paints, the committee proposes drastic legislation to remedy the second evil. The committee recommends the enactment of a law prohibiting the importation, sale or use of any paint material containing more than 5 per cent. of its drug weight of soluble lead compounds (Jour. A. M. A., July 15, 1916, p. 234).

Hexamethylenamin in Anterior Poliomyelitis.—It has been shown that hexamethylenamin has no germicidal activities, except in an acid medium. Therefore, it is of special value only in infactions of the pelvis of the kidney, ureters, bladder and uretra when the urine is acid. It cannot be expected to exert germicidal activity in the spinal fluid, which is alkaline and hence is of no value in the treatment of anterior poliomyelitis (Jour. A. M. A., July 22, 1916, p. 309).

Chemotherapeutic Treatment of Tuberculosis.—In the August issue of the Journal of Experimental Medicine, Koga, Otani and Takano report on a new treatment of tuberculosis and leprosy. Koga reports that the treatment of animals inoculated with a preparation of copper and potassium cyanide produces healing changes in tuberculous lesions. He also reports on the treatment of sixty-three cases and thinks that his preparation, which he calls "cyanocuprol," greatly improves or cures pulmonary tuberculosis in the first or second stages and even is beneficial in the third stage. Otani also gives a favorable clinical report of tuberculous cases. Takano treated cases of leprosy with "cyanocuprol" with what appear to be beneficial effects. The Japanese investigators give no clear statement in regard to the composition of the copper-cyanide preparation which they used (Jour. A. M. A., Aug. 5, 1916, p. 443).

Aspirin.—The patent on aspirin will expire next year. The Bayer Company, the American agents, view with disfavor the prospect of losing the right to the sole manufacture of acetylsalicylic acid. This may explain the campaign of publicity which the Bayer Company has inaugurated in the lay press, in which the public is urged to buy the Bayer brand of acetylsalicylic acid (aspirin) only. There can be no better time than the present for the medical profession to substitute for the non-descriptive name "aspirin" the descriptive and correct name acetylsalicylic acid (Jour. A. M. A., Aug. 12, 1916, p. 515).

Radio-Rem.—The Council on Pharmacy and Chemistry reports that those who are well informed on the subject of radium therapy are of the opinion that the administration of small amounts of radium emanation, such as those generated by certain outfits, is without therapeutic value. Having voted not to admit to New and Nonofficial Remedies any radium emanation generator which produces less than two microcuries of emanation during 24 hours, the council voted not to accept Radio-Rem outfit No. 3, Radio-Rem outfit No. 2 and Radio-Rem outfit C, each of which is admitted to produce less than two microcuries of emanation per day (Jour. A. M. A., Aug. 19, 1916, p. 631).

Quality of Chlorinated Lime.—J. P. Street, chemist in the Connecticut Agricultural Experiment Station, reports that of twenty-five samples of chlorinated lime (bleaching powder) which, according to the United States Pharmacopoeia, should contain "not less than 30 per cent. of available chlorin," only three were found of full strength. Eight contained but traces of available chlorin. This is a dangerous situation when it is recalled that the public as well as the medical profession puts great dependence on the disinfecting powers of this inexpensive material (Jour. A. M. A., Aug. 26, 1916, p. 695).

Quality of Sodium Sulphite.—Investigation has shown that while the crystallized sodium sulphite is unreliable, the dried or desiccated form of sodium sulphite is generally of good quality and relatively permanent. A. H. Clark reports experiments showing that specimens of desiccated sodium sulphite keep for years with little deterioration (Druggists' Circular, July, 1916, p. 396).

Aromatic Spirits of Ammonia.—This is an old-fashioned complex mixture. Its reputation has little scientific basis. Its effects probably are psychic, in the main. Such effects might be expected from the irritation of the nasal mucosa by the ammonia and to the flavor and odor of the lemon, lavender and nutmeg oils. The physical effect is probably due to the alcohol, though the ammonium carbonate and uncombined ammonia may have some restorative action by the irritation of the gastric mucosa or by their neutralization of nauseating acids in the stomach. When the effects of ammonium carbonate are desired, this is better given in aqueous solution. When the effects of alcohol are desired, whiskey is to be preferred (Jour. A. M. A., July 1, 1916, p. 65).

Aromatic Spirits of Ammonia in Shock.—Horatio C. Wood, Jr., explains that any stimulating effect which may be observed after the oral administration of aromatic spirits of ammonia is due either to a psychic effect or to its local irritant action on the gastric mucosa, just as the irritation by ammonium carbonate, in the form of smelling salts, of the mucous membrane of the nose may reflexly excite the medulla (Jour. A. M. A., July 15, 1916, p. 231).

Tartar Emetic and Sodium Bicarbonate Incompatible.—The A. M. A. Chemical Laboratory reports that when an aqueous solution of tartar emetic is added to a solution of sodium bicarbonate a clear solution results at first, but that on standing a precipitate of antimony hydroxide is formed (Jour. A. M. A., Aug. 5, 1916, p. 462).

Wine of Cardui Verdict.—Anent the verdict in the recent "Wine of Cardui trial" awarding one cent damages to the Chattanooga Medicine Company, a medical journal offers condolences to the American Medical Association, declares that the verdict is "a very decided victory for the 'patent medicine' association," and asks "is publicity the way to accomplish the true end"? The outcome of the case was a moral victory for the Association and publicity is the only rational means of attacking the nostrum evil, whether of the "patent medicine" or of the "ethical proprietary" variety. Until the public is given definite and specific facts no great strides will be made in preventing unscrupulous cupidity from preying on the sick and suffering. The faith of the public in patent medicines of all sorts continues because no small part of the medical profession is itself still under the blight of the "patent medicine" business—albeit the preparations in question are euphemistically spoken of as "ethical proprietaries" (Jour. A. M. A., July 15, 1916, p. 206).

A Study of "Uterine" Drugs.—Dr. J. D. Pilcher, W. R. Delzell and G. E. Burman, working in the Pharmacologic Laboratory of the University of Nebraska Medical School, have studied the action on the excised guinea pig uterus of a number of drugs which are constituents of proprietary and "patent" "female" remedies, drugs for the value of which there is little evidence and which would have fallen into disuse but for their exploitation. The following drugs lessened the amplitude of the contractions of the uterine strips, or in stronger solutions caused a complete cessation: Unicorn root, pulsatilla, Jamaica dogwood and figwort. Somewhat less active were valerian and lady's-slipper. The drugs having very weak actions were wild yam, life root and skull-cap. Blue cohosh was most active and put uterine strips in a state of tonic contraction or tetanus. The following drugs were quite inactive: black haw, cramp bark, squaw vine, chestnut bark, false unicorn, passion flower, blessed thistle, St. Mary's thistle and motherwort. The authors are confident that the actions observed would also be produced in the intact human uterus provided the drug reached the uterus in a similar concentration but that it is improbable that the concentration of drug used could ever be attained in the body. Work which is under way indicates that these drugs do not act specifically on the uterus but on smooth muscle in general and that this general action would overbalance any favorable action on the uterus. The authors conclude that the drugs examined are practically worthless and that their use is harmful as well as futile since such use tends to perpetuate therapeutic fallacies (Jour. A. M. A., Aug. 12, 1916, p. 490).

Poisonous Properties of the Garden Daffodil.—The bulbs of the garden daffodil (known botanically as Narcissus pseudonarcissus) contain an alkaloid (or alkaloids) whose physiologic action differs according to the stage of growth of the plant. The alkaloid extracted from the flowering bulb produces dryness of the mouth, checks cutaneous secretions, dilates the pupil, quickens the pulse, and slows and weakens the heart contractions. The alkaloid extracted from the bulbs after flowering produces copious salivation, increases cutaneous secretion, contracts the pupil, and produces slight relaxation of the pulse, slight faintness and nausea. Such widely divergent physiologic effects indicate that there must be considerable differences in the nature of the alkaloids at the different times mentioned. Since the daffodil is so common in gardens it might be well to consider it in poisonings of mysterious origin (Jour. A. M. A., July 22, 1916, p. 290).

Ambrine.—An article "War Letters of an American Woman" in the Aug. 2 issue of "Outlook" contains a glowing account of the use of "Ambrine" in the treatment of burns by a Dr. Barthe de Sandfort, Hospital St. Nicholas, Paris. Ambrine is a proprietary preparation which has been on the French market for years. It is a secret nostrum in that the proportions of the ingredients—"wax, paraffin and resin"—are not given. There is nothing original in an application of melted resin, beeswax and paraffin, although the correspondent of the Outlook seems to have been carried away with the idea that it is one of the great miracles of the day (Jour. A. M. A., Aug. 12, 1916, p. 535).

SOCIAL INSURANCE COUNTY COMMITTEES.

Alameda County—Dr. H. S. Delamere, chairman; Dr. F. H. Bowles, Dr. H. A. Makinson.

Butte County—Dr. Edw. E. Baumeister, Dr. N. T. Enloe, Dr. J. O. Chiapella.

Los Angeles County—Dr. Wm. Wenzlick, chairman; Dr. J. Ross Moore and Dr. T. Percival Gerson.

Mendocino County—Dr. L. C. Gregory, Dr. Oswald H. Beckman, Dr. H. O. Cleland, Dr. S. L. Rea, Dr. E. H. Sawyer.

Modesto County—Dr. B. F. Surryhne, Dr. F. R. Delappe, Dr. E. V. Falk.

Sacramento County—Dr. E. M. Wilder, chairman; W. A. Beattie and J. P. Dillon.

San Bernardino County—Dr. G. G. Moseley, Dr. Carroll C. Davis, Dr. C. G. Hilliard.

San Diego County—Dr. Homer C. Oatman, Dr. R. J. Pickard, Dr. Harry Wegefarth, Dr. P. M. Carrington, Dr. R. L. Doig.

San Francisco County—Alice M. Woods.

Orange County—Dr. H. M. Robertson, Dr. J. I. Clark, Dr. A. M. Weedie.

Santa Cruz County—Dr. J. M. Gates, Dr. Keck, Dr. E. E. Porter.

Ventura County—Dr. D. W. Mott, Dr. C. A. Jensen, Dr. B. E. Merrill, Dr. H. B. Osborn.

These are all the counties reported to date, October 18th.

Committee on State Industrial Accident Laws.

Los Angeles County—Dr. Wm. R. Moloney, chairman; Dr. E. H. Southworth and Dr. C. P. Thomas.

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH ON SEPTEMBER 2ND, 1916.

The State Board of Health met in Sacramento September 2, 1916, to hold the regular monthly meeting. Doctors George E. Ebright, F. F. Gundrum, Edward F. Glaser, Adelaide Brown, Robert A. Peers, and Wilbur A. Sawyer were present.

Inasmuch as a plague-infected ground squirrel had been found in San Mateo County, a resolution was passed declaring that county to be an existing focus of plague. This action adds San Mateo County to the list of counties in which it is possible, under the State law, to compel land owners to destroy ground squirrels.

President George E. Ebright presented a progress report of the committee which is investigating the care and commitment of the insane and persons addicted to the use of habit-forming drugs.

On the request of Dr. W. W. Cross of Fresno, Director of the San Joaquin Valley Branch Laboratory of the Bureau of Communicable Diseases, he was given a leave of absence for one year from October 1, 1916, and Dr .Clifford D. Sweet was appointed to fill the vacancy during his absence.

Mr. Stanley B. Freeborn was reappointed inspector of the State Board of Health, without salary from the Board, for services in connection with the malaria and mosquito survey, to hold office for a period of one year from date.

In accordance with the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, a permit was granted to the Hanford City Water Company to supply water to the city of Hanford. Temporary permits to supply water were granted to the Escondido Mutual Water Company, the San Joaquin Light and Power Corporation (to supply water to the city of Selma), and the city of Turlock. A permit was granted to the city of Dinuba to dispose of sewage on a sewage farm after clarification. A temporary permit was given to the city of Turlock to continue to use the present method of sewage disposal.

A report was received from Mr. C. G. Gillespie, Chief Engineer, and Mr. Kemper B. Campbell, Attorney to the Board, on the work which the city of Los Angeles is instituting as a first step in meeting the Board's requirements regarding sewage disposal at Hyperion.

In accordance with the recommendation of the Director of the Bureau of Tuberculosis, wards 1 and 2 of the women's building of the San Francisco City and County Hospital were placed on the eligible list for the State tuberculosis subsidy. Two of the men's tuberculosis wards had previously been accredited.

Miss E. L. M. Tate, Director of the Bureau of Tuberculosis, was appointed delegate to the Southwestern Conference of the National Association for the Study and Prevention of Tuberculosis at Albuquerque, October 13 to 14, 1916.

The dates for the next examination for certification as registered nurse were set for October 18 and 19, 1916. The examination will be held simultaneously in Los Angeles, Sacramento, and San Francisco.

Much routine business was transacted, including the granting of licenses to cold storage warehouses, the extension of period of cold storage on goods found to be in good condition, and the holding of hearings in a large number of cases of alleged violation of the Food and Drug laws.

W. A. SAWYER, Secretary.

DANGERS OTHER THAN ACCIDENTS IN THE MAUFACTURE OF EXPLOSIVES.

We all know of explosions and other sudden dangers of the industrial chemist. There are dangers that approach their victims like a thief in the night, and others that give no warning but strike down their victims weeks and months after an onset, and with these dangers the public has no acquaintance. To safeguard the employees and others connected with certain chemical industries, the American Public Health Association has taken the matter under investigation. At the coming meeting of the American Chemical Society to be held in New York City during the week of September 25th-30th, the matter will be presented in a very comprehensive manner by Dr. Alice Hamilton, chairman of the Committee on Industrial Hygiene of the above association.

Dr. Hamilton has gained a world-wide reputation through her magnificent work on occupational poisons, and is eminently qualified to discuss this all-important subject. Dr. Hamilton is a graduate from the Medical College of the University of Michigan, 1893, did graduate work in bacteriology in Germany and at the Johns Hopkins University, and was bacteriologist in the Memorial Institute for Infectious Diseases at Chicago until 1909, when she started her investigations of occupational poisons for the State of Illinois. Since 1909, she has been connected with the Federal Bureau of Labor Statistics, where most of her classical work has been accomplished. As part of the program of the symposium of occupational diseases, Dr. Hamilton will present a paper somewhat along the following lines.

The risks from explosion in the manufacture of ammunition are well known to everyone, but there are other much less familiar and more subtle dangers connected with these processes, a study of which was recently undertaken by the Federal Department of Labor in collaboration with various State departments. It has been found that gases very poisonous in character are evolved in large quantities in the manufacture of nitrated products, such as gun cotton, nitro-glycerine, picric acid, and the new explosive T. N. T., and tronal and tetryl. These products are themselves often poisonous, causing distressing skin affections in those handling them and, when absorbed, more serious disturbances such as alterations in the blood are acute degeneration of the liver. More familiar poisons such as ether, wood alcohol, benzol, chlorine, mercury, phenol, and aniline, are also met with in these plants, and the number of cases of fairly serious industrial poisoning that have occurred in this country since the outbreak of the European war is far from negligible. As a rule the old established companies, whose experience is great, are using excellent preventive measures against these dangers, but the newer "war bride" factories are far less satisfactory.

UNITED STATES PUBLIC HEALTH SERVICE

Washington, August 14, 1916.

Congress has recently made an appropriation for 33 additional Assistant Surgeons in the United States Public Health Service. These officers are commissioned by the President, and confirmed by the Senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of Surgeon.

Assistant Surgeons receive $2000, passed assistant surgeons $2400, surgeons $3000, senior surgeons $3500, and assistant surgeon-general $4000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

Examinations will be held every month or so in various cities, for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

THE ORGANIZATION OF THE ARMY.

Line and Staff, and the Administrative Zones in War.

(By Major John W. Hanner, Medical Corps, U. S. Army.)

The army of the United States comprises the Regular Army, the Volunteer Army, the Officers' Reserve Corps, the Enlisted Reserve Corps, and the National Guard while in the service of the United States.

The land forces are grouped under two general heads:

1. The Mobile Army, organized primarily for offensive operations against an enemy.
2. The Coast Artillery, for defense of our ports and seacoast.

Another general grouping of the army may be made into:

1. The line, or combatant forces.
2. The staff corps and departments.

The line of the army consists of infantry, cavalry, field artillery, and coast artillery,—the first three organized in various regiments, the numbers determined by Congress in fixing the strength of the army. When three regiments of infantry, say, are combined under one command, it is called a brigade of infantry, and, typically, when three brigades are likewise combined, it makes a division, with the addition of cavalry, light artillery, engineers, signal troops, etc. Field armies are formed when two or more infantry divisions are combined.

The Staff Corps and Departments are the following: The General Staff Corps, the Adjutant General's Department, the Inspector General's Department, the Judge-Advocate General's Department, the Quartermaster Corps, the Medical Department, the Corps of Engineers, the Ordnance Department and the Signal Corps.

The Medical Department is made up of the Medical Corps, the Medical Officers of the Officers' Reserve Corps, the Dental Corps, the Veterinary Corps, an enlisted force, the Nurse Corps and Contract Surgeons. Its duties are many and varied: it looks after the sanitation of the army in the field, in camp and at permanent posts;—the water supply and its purification are its care, and the disposal of wastes; it cares for the sick and wounded; physically examines officers and enlisted men; manages and controls military hospitals; recruits and instructs its enlisted personnel; has control of the Nurse Corps, and furnishes all medical and hospital supplies.

"Administrative Zones" in War.

Under this head are embraced (1) the service of the interior, and (2) the service of the theater of operations, and this latter is again divided into (a) the zone of the line of communications, and (b) the zone of the advance.

In the interior we have the general depots of supply, general hospitals, arsenals, mobilization and concentration camps, etc.

In the theater of operations, the zone of the line of communications is the connecting link between the interior and the zone of the advance, forwarding supplies of men and material to the combatant forces from the interior, and conveying back from the advance the sick and wounded, and generally unfit, so as to leave the combatant forces unencumbered and mobile. In this area the sanitary service establishes evacuation and base hospitals, convalescent and isolation camps, and rest stations; has its base and medical supply depots, and has charge of hospital trains and hospital ships.

The zone of the advance is that area in which there is actual and potential fighting. In this area the sanitary service must be as mobile as the combatant troops, and is composed of camp infirmaries, ambulance companies and field hospitals.

ABSTRACT.

The Sanitary Service of the Premobilization Period.

(By Major Ralph G. Devoe, Medical Corps, U. S. Army.)

The physical examination of recruits is one of the most important duties of medical officers. Many applicants with minor defects must be taken but it must be borne in mind that such are prone to take advantage of their defects to avoid difficult service. Medical officers are held personally responsible for the enlistment of unfit men and all defects must be noted, though not considered sufficient to demand the rejection of applicant.

In determining whether all body functions are sufficiently vigorous to withstand hardships of active service, special difficulties arise. Those most frequently met with are abnormalities of the special senses, diseases of the heart and lungs (tuberculosis), questions of mental stability, defective teeth, venereal disease and abnormalities of the extremities, especially feet.

Records and special identification procedures must be carried out under supervision of the medical officer, for the correctness of which he is responsible.

Laboratory methods must be employed when necessary to establish fitness or unfitness for service and the Wassermann test must be made routinely on all recruits and men re-enlisting. Specific prophylaxis especially that of smallpox and typhoid must be employed as a routine matter. The various communicable diseases commonly met with in the army in the premobilization period must be met by the means usually available for their diagnosis, isolation and the detection of carriers.

Solution of the problems of water and milk supply during the premobilization period, as compared with the magnitude and difficulty they assume in the field service, presents, ordinarily, little difficulty.

ABSTRACT.

The Diseases of War: Their Prevention, Control and Treatment.

(By Major Lloyd L. Smith, Medical Corps, U. S. Army.)

Typhoid fever caused nine-tenths of all deaths among troops encamped in the United States in 1898. Factors determining the high rate of sickness in war have reference either to lowered bodily resistance or to increased facilities for infection. The reasons for increased facilities for

infection are concerned with water supply, disposal of excreta, overcrowding of tents, absence of suitable means of isolation and disinfection, and insanitary conditions of an unavoidable nature due to stress of war. Typhoid fever illustrates the infectious diseases of the intestinal type. In past wars typhoid fever has broken out toward the end of the first month in spite of all precautions. The finding of the typhoid carrier has dispelled much of the haze surrounding the mode of infection. Probably many of the organisms at the beginning of the oubreak were of low virulence, but increased in virulency on being transmitted through various individuals; men with lowered resistance supplied the early sporadic cases; outbreak assumed proportions of an epidemic after the necessary interval required for development of secondary infections. Ambulatory typhoid and premonitory diarrhea are of great importance. Early cases may have shown only diarrhea; these cases were less likely to show subsequent attacks of clinically typhoid fever. All this shows that diarrhea, in war times, deserves especial consideration and study. Infectivity of dust is short lived but intense while it lasts.

Mortality in cerebro-spinal meningitis is high and 40 per cent. of all contacts are said to be carriers.

Typhus fever of Mexico (tabardillo) and Brill's disease are identical with typhus fever. Immediate associations of this disease are famine, filth and vermin.

Scurvy is a deficiency disease that occurs in besieged forts. Gingivitis, caused by eating hard rations, is often mistaken for a symptom of scurvy.

Measures dealing with diseases in war are as complex and varied as the diseases with which they are designed to deal. Two essential methods are necessary: First, accurate diagnosis on direct clinical observation, provided no laboratory is at hand to give assistance; traveling motor laboratories for each army at the front is of great assistance; also, field laboratories on lines of communications; second, accurate statistical records of prevalence of those diseases which require remedial action.

Preventive measures: antityphoid innoculation absolutely essential; taking temperature of newly raised soldiers necessary before antityphoid innoculation to rule out cases already in the prodromal stage of typhoid fever. Typhus fever is prevented by attention to overcrowding, house sanitation, personal hygiene, proper bathing facilities, methods of destruction of vermin, disinfection of clothing, etc.

Remedial action: Prompt detection of wastage in the fighting strength and removal of its cause, whatever that may be. Here, statistical returns are of importance.

An Abstract of a Lecture on Medical Supplies and Equipment.

(By Colonel Henry I. Raymond, Medical Corps, U. S. Army.)

The Manual for the Army Medical Department, 1916, is divided into three parts. Part I treats of general medical administration; Part II treats of the sanitary service in war and Part III is upon the Supply Tables. The three grand subdivisions of supply are Post, Dental and Field.

Post supplies appear under the following subdivisions: (a) Medicines, antiseptics and disinfectants, (b) stationery, (c) miscellaneous, (d) laboratory supplies, (e) identification supplies and (f) X-ray supplies. In addition to the foregoing supplies the post or regimental surgeon must keep on hand certain field supplies in time of peace for the exigency of war. These are: (a) first aid packets for every officer and enlisted man of the command, (b) individual equipment, medical officer, (c) individual equipment, Hospital Corps, (d) regimental combat equipment, (e) camp infirmary equipment, (f) "additional articles" which when added to the camp infirmary will permit of the establishment of a regimental hospital.

Dental supplies are carried under two headings: (a) base, suitable for service in a general hospital, (b) portable outfit for itinerary service.

Field supplies embrace all those for field sanitary units, such as field hospitals and ambulance companies, and are replenished by issues from the base and advance medical supply depots. The advance depot makes issues chiefly to the fighting forces in the zone of the advance. This depot must keep in stock at all times at least one "medical reserve unit," which is a collection of medical supplies estimated to be sufficient to meet the immediate requirements of a reserve for one infantry regiment. A medical reserve unit as issued from a supply depot is contained in some 255 packages weighing about 18,000 pounds. The supplies and equipment of an Evacuation hospital are contained in 565 packages and weigh over 30 tons. This hospital located in the advance section of the line of communications is quite in contrast with the field hospital in the zone of the advance as regards mobility, for the field hospital supplies and equipment including tents are contained in 213 packages and weigh but 8 tons. Yet this seems excessive for a distinctly mobile field unit and the tendency is to trim it down. Only recently the beds and cots have been thrown out for hay and rubber blankets.

Certain equipment designations prescribed in general orders are as follows: Equipment "A" is that prescribed for use in campaign or on the march and is the only equipment for which transportation is provided. Equipment "B" is that which, in addition to equipment "A," is prescribed for more or less stationary troops, as in camps of mobilization, concentration, instruction or maneuver. Equipment "C," is the sum of equipment "A" and "B," and hence it includes every article prescribed for field service.

IN ERRATA.

On page 386 of the September Journal under New Members the name Bogue, H. E., should be H. Virgil Bogue.

NEW MEMBERS.

Flagg, Don P., Los Angeles.
Slater, John H., Los Angeles.
Smith, Bertrand, Los Angeles.
Stephens, J. M., Los Angeles.
Thomas, Benjamin, Palo Alto.
Clark, Ernest M., Oakland.
Forbes, Henry Stone, Berkeley.
Hieronymus, Arthur, Alameda.
Mehrmann, H. B., Oakland.
Rowe, Albert Holmes, Oakland.
Minaker, A. J., San Francisco.
Hewlett, A. W., San Francisco.
Herrington, Edward Lee, San Francisco.
Deimel, H. F., San Francisco.
Pietrafesa, Rocco, San Francisco.
Holzberg, Henry L., San Francisco.
Friedman, Aaron, San Francisco.

DEATHS.

Powers, Thomas, Los Angeles.
Makenson, Winfield S., Rio Vista.
McLaughlin, James H., Sutter Creek.
Cate, La Fayette, Adin.
Rosenberger, John Ashby, Del Rey.
Felt, Seth C., Los Angeles.
La Spada, Francesco, San Jose.